

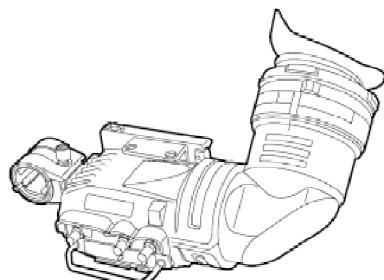
ORDER NO. BSD04090210

1.5-inch Electronic View Finder / 2-inch Electronic View Finder



AJ-VF15BP/E / AJ-VF20WBP/E

Please use this manual together with the service manual for Model No. AJ-VF15BP/E, AJ-VF20WBP/E, Order No. VSD9908M905.



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Please refer to the Operating Instructions in the appendix folder. / [\(Go to Appendix List\)](#)

Panasonic

1. Service Manual for AJ-VF15BP/E,AJ-VF20WBP/E

Service Manual

1.5" Electronic View Finder

AJ-VF15P/E

2" Electronic View Finder

AJ-VF20WP/E

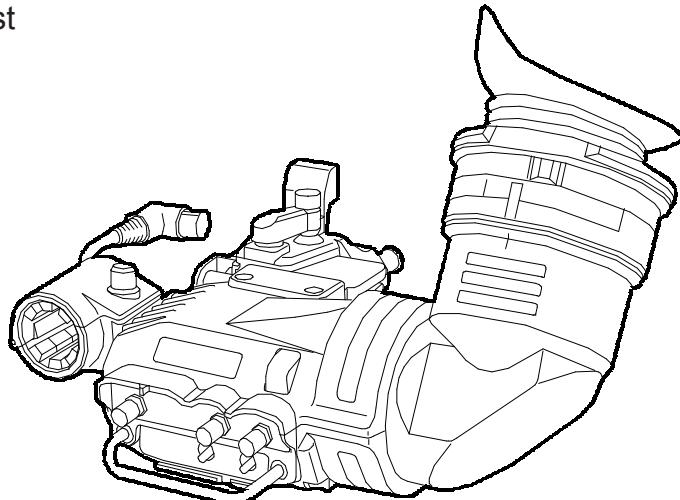
Sec.1 Operating Instructions

Sec.2 Disassembly procedures

Sec.3 Electrical adjustment procedures

Sec.4 Block Diagrams, Schematic Diagrams & Circuit Board Diagrams

Sec.5 Exploded Views & Replacement Parts List



Specifications

Power supply: DC 12 V (supplied by camera)

Power consumption: 2.1 W (AJ-VF15P, AJ-VF15E)

2.7 W (AJ-VF20WP, AJ-VF20WE)

Picture tube:

1.5-inch high-resolution monochrome picture tube (AJ-VF15P, AJ-VF15E)

2-inch high-resolution monochrome picture tube (AJ-VF20WP, AJ-VF20WE)

Horizontal resolution:

600 lines (center, typical, 4 : 3 mode)

Image system:

525 lines, 60 fields (AJ-VF15P, AJ-VF20WP)

625 lines, 50 fields (AJ-VF15E, AJ-VF20WE)

External adjustment controls:

Controls (BRIGHT, CONTRAST, PEAKING)

Switches (TALLY HIGH/OFF/LOW, ZEBRA ON/OFF)

Allowable temperature range:

32°F to 104°F (0°C to 40°C)

Allowable humidity range:

85% or less (no condensation)

External dimensions (W×H×D):

9 1/2"×3 3/16"×8 1/8" (240×80×206 mm)

Weight:

2.09 lb (950 g)

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SECTION 1

OPERATING INSTRUCTIONS

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Features

- The high-resolution CRT delivers superb picture sharpness, making focusing easier.
- The low-flare CRT makes the screen clear and easy on the eyes.
- The large eyecup aperture makes it possible to see the screen even when holding the viewfinder at some distance from your eye.
- The eyepiece is easily detachable.
- Easy, one-touch left-right and forward-backward position adjustment.

Specifications

Power supply:	DC 12 V (supplied by camera)
Power consumption:	2.1 W (AJ-VF15P, AJ-VF15E)
	2.7 W (AJ-VF20WP, AJ-VF20WE)

Picture tube:

1.5-inch high-resolution monochrome picture tube (AJ-VF15P, AJ-VF15E)
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Horizontal resolution:

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Image system:

525 lines, 60 fields (AJ-VF15P, AJ-VF20WP)

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External adjustment controls:

Controls (BRIGHT, CONTRAST, PEAKING)

Switches (TALLY HIGH/OFF/LOW, ZEBRA ON/OFF)

Allowable temperature range:

32°F to 104°F (0°C to 40°C)

Allowable humidity range:

85% or less (no condensation)

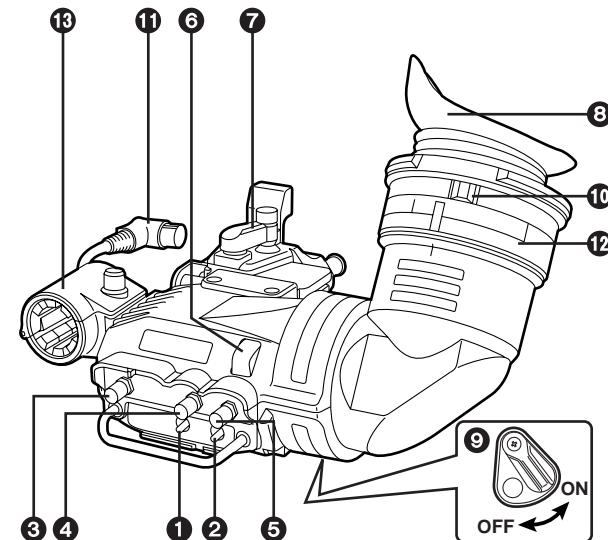
External dimensions (W×H×D):

9 1/2"×3 3/16"×8 1/8" (240×80×206 mm)

Weight:

2.09 lb (950 g)

Parts and Their Functions



① ZEBRA (Zebra Pattern) Switch

Displays a zebra pattern inside the viewfinder.

ON: Displays a zebra pattern.

OFF: No zebra pattern displayed.

The details of the display, such as the type of zebra pattern, will differ depending on the camera used with the viewfinder. Refer to the instruction manual of the camera for details.

② TALLY Switch

Controls the front tally lamp.

HIGH: Makes the front tally lamp brighter.

OFF: Turns the front tally lamp off.

LOW: Makes the front tally lamp dimmer.

③ PEAKING Knob

Adjusts the outlines of the images in the viewfinder to make focusing easier. The setting of this control has no effect on the output signal of the camera.

④ CONTRAST Knob

Adjusts the contrast of the screen inside the viewfinder. The setting of this control has no effect on the output signal of the camera.

Parts and Their Functions

⑤ BRIGHT (Brightness) Knob

Adjusts the brightness of the screen inside the viewfinder. The setting of this control has no effect on the output signal of the camera.

⑥ Front Tally Lamp

Lights when the VTR is recording and the TALLY switch is set to HIGH or LOW. Also, flashes on and off as a warning indication, in the same manner as the REC lamp, inside the viewfinder.

The brightness of the front tally lamp is controlled by the setting of the TALLY switch (HIGH or LOW).

⑦ Viewfinder Forward-Backward/Left-Right Position Clamp Lever

Loosen this lever to adjust the viewfinder position in the forward, backward, right or left direction.

⑧ Eyecup

⑨ Back Tally Lamp

Lights when the VCR is recording. Also, flashes on and off as a warning indication, in the same manner as the REC lamp inside the viewfinder.

The back tally lamp is hidden when the lever is in the OFF position.

⑩ Diopter Adjustment Ring

Adjust this control to match the vision of the person using the camera so that the image on the screen in the viewfinder is as clear as possible.

⑪ Connection Plug

⑫ Lock Ring

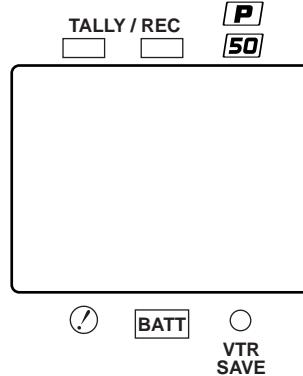
⑬ Microphone Holder

Parts and Their Functions

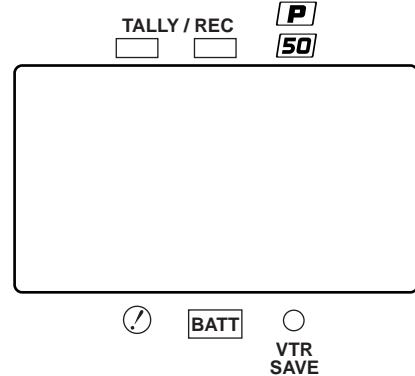
Internal LEDs

The lamp and picture tube indications will differ depending on the camera used with the viewfinder.

Refer to the instruction manual of the camera for details.



4 : 3 Display
AJ-VF15P, AJ-VF15E



16 : 9 Display
AJ-VF20WP, AJ-VF20WE

Adjusting the Viewfinder

Adjusting the Mounting Height of the Viewfinder

The mounting height of the viewfinder will differ depending on the camera on which it is mounted.

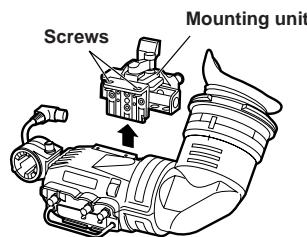
Adjust the mounting height to match the camera on which the viewfinder is to be mounted.

Camera model number		Mounting position
NTSC regions AJ-D810, AJ-D810A, AJ-D900W, AJ-D900WA, AJ-D910WA, AJ-PD900W, AJ-PD900WA	PAL regions AJ-D900W, AJ-D900WA, AJ-D910WA	Factory setting No adjustment of the mounting height is necessary.
NTSC regions AJ-D700, AJ-D700A	PAL regions AJ-D700, AJ-D700A, AJ-D800, AJ-D800A	Change to position A
NTSC regions AQ-23W	PAL regions AQ-23W	Change to position B

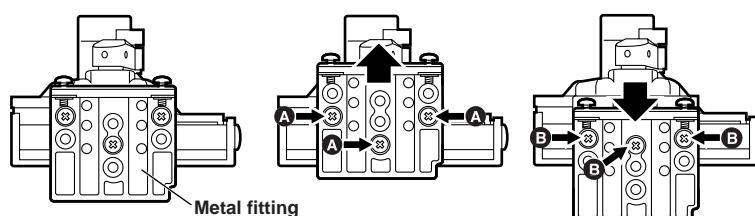
For camera models other than those listed above, please refer to the camera's instruction manual.

• Adjusting the height of the mounting unit

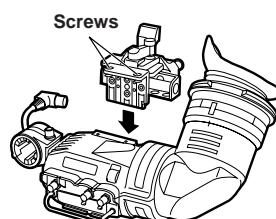
1. Detach the two screws, the detach the mounting unit.



2. Replace the three screws in the positions indicated as **A** or **B** from the present positions and change the position of the metal fitting.



3. Secure the mounting unit in place with the two screws.



Adjusting the Viewfinder

Mounting the Viewfinder

1. Confirm that the POWER switch of the camera is "OFF".

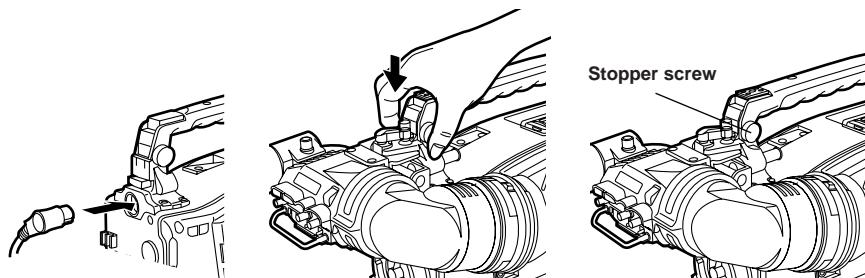
2. Insert the plug into the connection jack of the viewfinder.

<Note>

Be sure to insert the plug all the way into the connection jack.

3. Push the viewfinder down into place.

4. Tighten the stopper screw firmly.



Detaching the Viewfinder

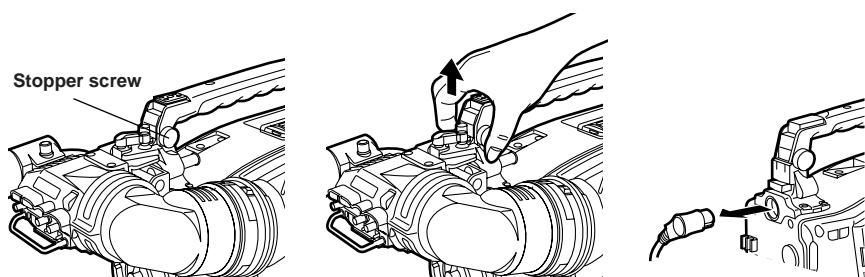
1. Confirm that the POWER switch of the camera is "OFF".

2. Loosen the stopper screw and detach the viewfinder by pulling it straight up.

<Note>

Use both hands to detach the viewfinder. The viewfinder may not detach smoothly with one hand, resulting in damage to the viewfinder.

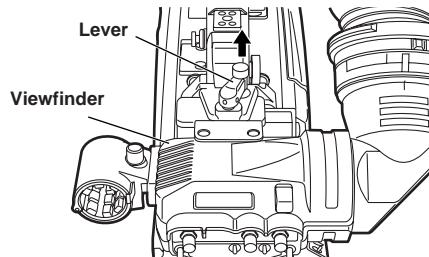
3. Disconnect the connection jack from the viewfinder cable connector.



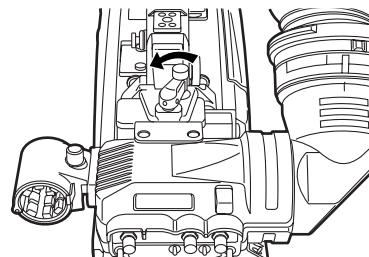
Adjusting the Viewfinder

Position Adjustment

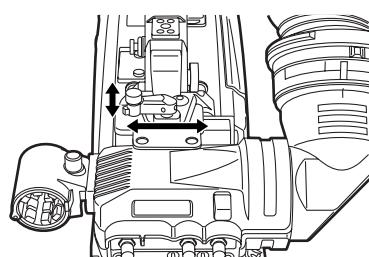
1. Lift up the viewfinder forward-backward/left-right position clamp lever to disengage the lock.



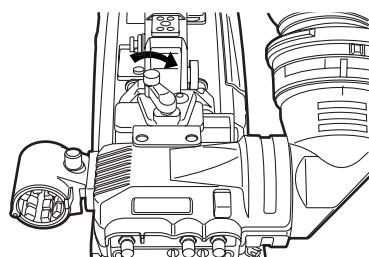
2. Loosen the viewfinder forward-backward/left-right position clamp lever.



3. Adjust the position of the viewfinder by moving it forward, backward, left or right.



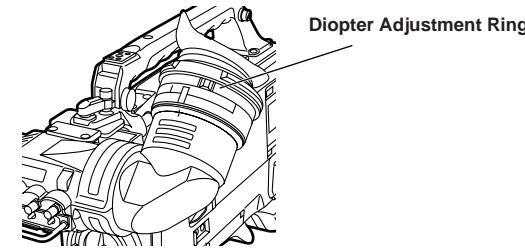
4. Return the viewfinder forward-backward/left-right position clamp lever to the locked position.



Adjusting the Viewfinder

Diopter Adjustment

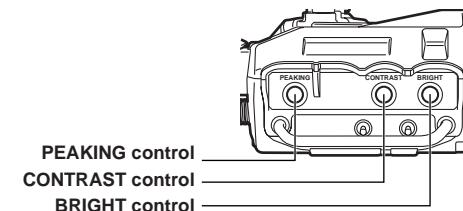
1. Set the POWER switch of the camera to "ON". A picture will appear in the viewfinder.
2. Turn the diopter adjustment ring to adjust the diopter so that the viewfinder picture can be clearly seen.



Screen Adjustment

Adjust the condition of the viewfinder screen.

Brightness: Adjust the BRIGHT control.
Contrast: Adjust the CONTRAST control.
Contour: Adjust the PEAKING control.



1. Set the POWER switch of the camera to "ON".
2. Set the OUTPUT switch of the camera to "BAR".
3. Turn the viewfinder BRIGHT and CONTRAST controls to adjust the picture brightness and contrast.
 Turning the PEAKING control makes the picture appear sharper.
 A sharper picture facilitates focusing the lens.

Adjusting the Viewfinder

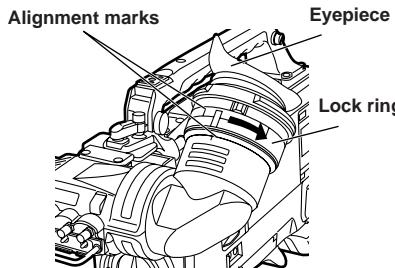
Detaching the Eyecup

If dust has adhered to the CRT screen or mirror, detach the eyecup and remove it.

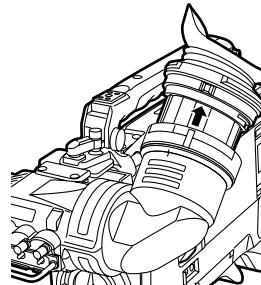
<Note>

Do not wipe the mirror surface under any circumstances as it has been specially treated. Dust which has adhered to the mirror should be blown away with a blower, etc.

1. Turn the lock ring as far as possible in the clockwise and counterclockwise directions to line up the alignment marks on the lock ring and viewfinder barrel.

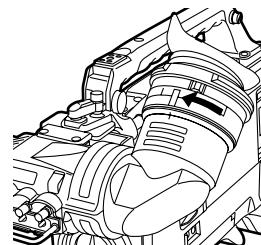


2. Detach the eyecup.



Remounting the Eyecup

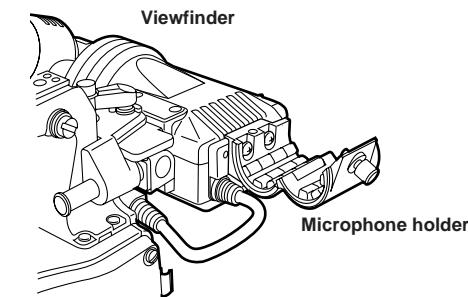
1. Line up the alignment marks on the lock ring and the viewfinder barrel and slide the eyecup back into place.
2. Turn the lock ring clockwise as far as the **LOCK** position.



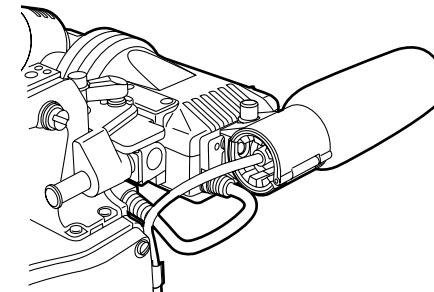
Mounting the Microphone

Follow the steps below to install the AJ-MC700P microphone kit (sold separately).

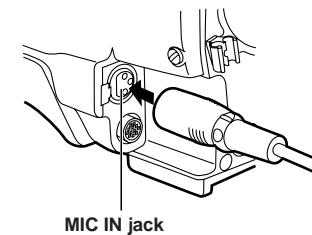
1. Open the microphone holder.



2. Mount the microphone.



3. Plug the microphone connector cable into the MIC IN jack.



SECTION 2

DISASSEMBLY PROCEDURES

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Disassemble procedures

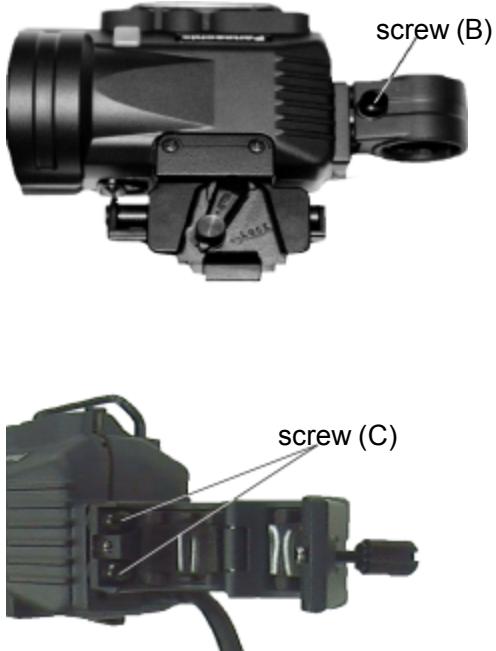
1. Mounting Unit Removal

Unscrew 2 screws (A) so that the mounting plate can be removed.

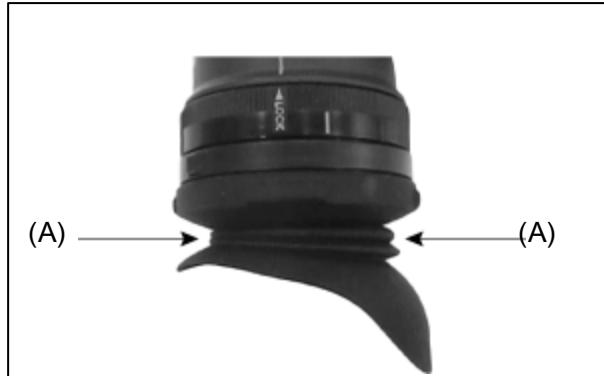


2. Microphone Holder Removal

1. Unscrew 1 screw (B) so that the microphone holder can be opened as shown figure below.
2. Unscrew 2 screws (C) so that the microphone holder can be removed.



3. Eye Piece Rubber Removal



1. Carefully tear off the portions of the Eye piece.

Note: When assembling the eye piece unit, align the markers as shown in the figure above.

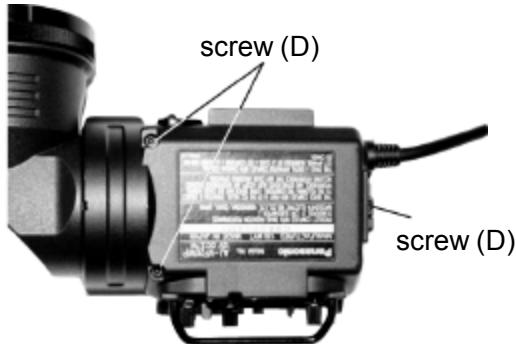
4. Eye Piece Unit Removal

1. Rotate the rock rings fully CW direction so that the eye piece unit can be pulled out.



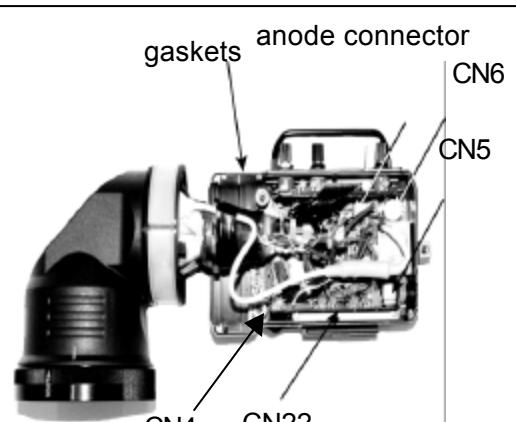
5. Upper Case Removal

1. Unscrew 3 screws (D) so that the upper case can be removed.



6. Bottom Case Removal

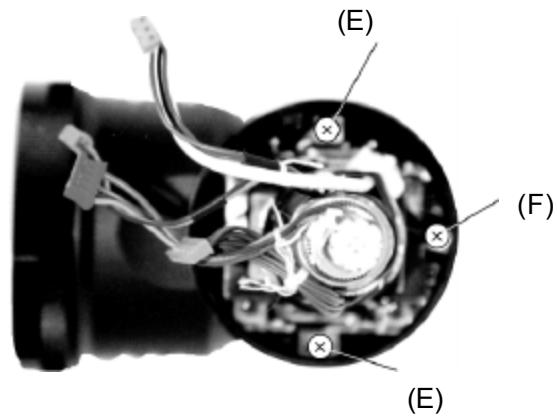
CN22(on Sub 1 P.C.Board)CN4(on Main P.C.Board) CN5 (on Main P.C.Board) CN6 (on Main P.C.Board) And disconnect the CRT anode connector so That the bottom case can be removed.



Casually disconnect the following connectors.
Note: When assembling the case, make sure that the gaskets are not degraded.

7. CRT Unit Removal

1. Unscrew 2 screws (E) and 1 screw (F).
2. Slowly and carefully pullout the CRT unit.



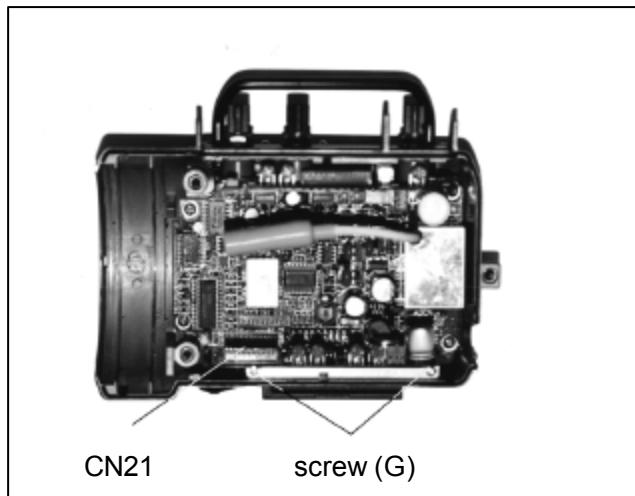
Caution : 1) Do not wipe the surface of the mirror because the special coating has been made on the surface of the mirror. When cleaning the mirror, please use lens blower.



Caution : 2) When assembling the case, make sure that the gasket is not degraded.

8. Sub 1 P.C. Board Removal

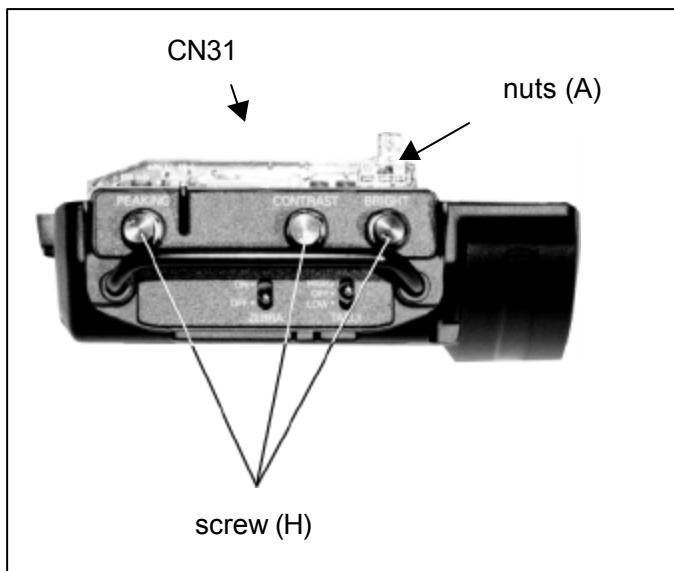
Casually disconnect connector CN21 and unscrew 2 screws (G) so that the Sub 1 P.C. Board can be removed.



9. Sub 2 P.C. Board Removal

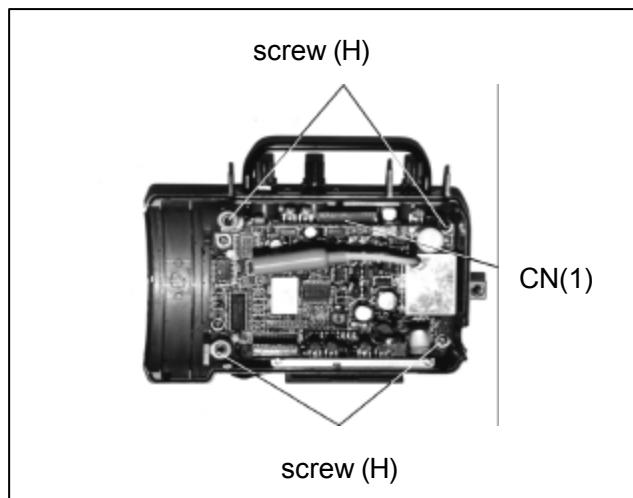
1. Carefully disconnect connector CN31.
2. Loosen 3 hex screws on the VR knob and pull out the 3 VR knob.
3. Unscrew 3 nuts (A) so that the sub 2 P.C. Board can be removed.

Note :Do not lose the switch gasket. When assembling the case, make sure that the switch gasket is not degraded.



10. MAIN P.C. Board Removal

1. Carefully disconnect connectors (CN1) so that the EVF Cable can be removed.
2. Unscrew 4 screws (H) so that the Main P.C. Board can be removed.

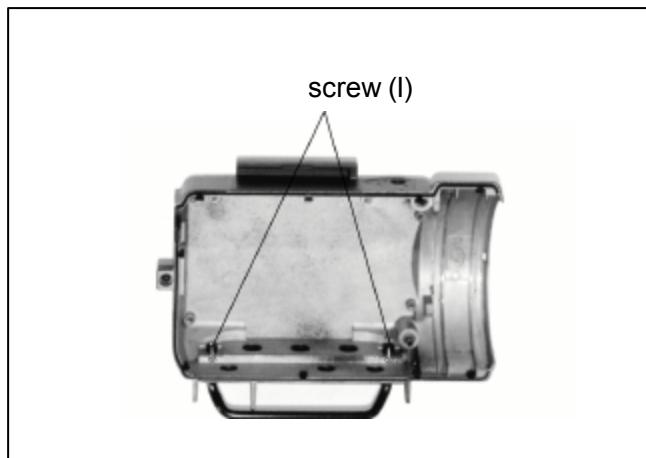


Carefully disconnect the following connectors.

Note: When assembling the case, make sure that the gaskets are not degraded.

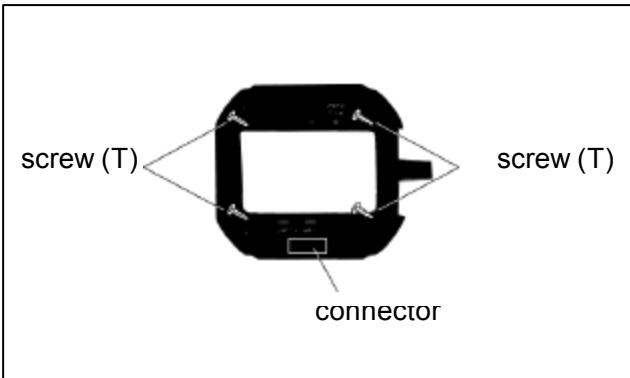
11. Guard Bar Removal

1. Unscrew 2 screws so that the guard bar can be removed.

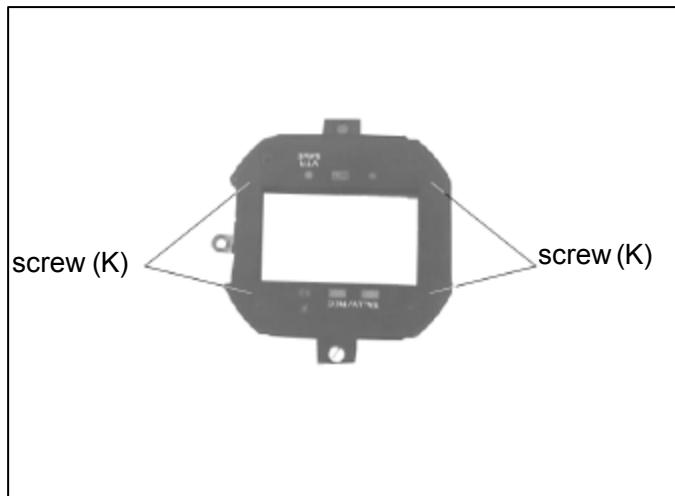


12. LED P.C. Board Removal

1. Carefully disconnect connectors (A) and unscrew 4 screws (J) so that the CRT unit can be removed.

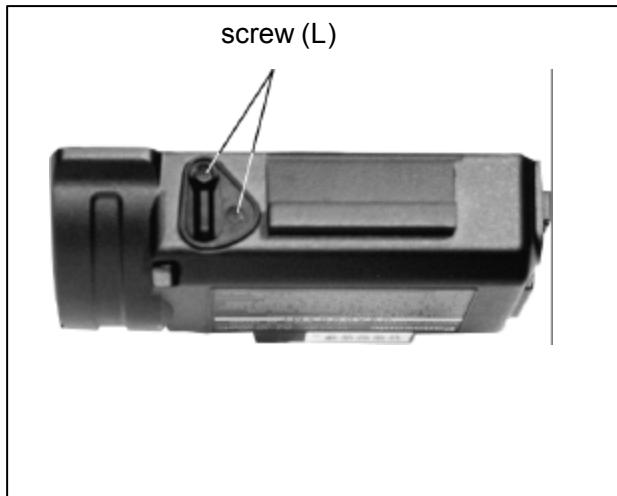


1. Unscrew 4 screws (K) so that the LED P.C. Board can be removed.



13. Back Tally Base Removal

1. Unscrew 2 screws (L) so that the Back Tally Base can be removed.



SECTION 3

ELECTRICALADJUSTMENT PROCEDURES

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1. Preparation

1-1 Measuring Equipment and Special Tools.

No	Item	Recommend Stuff	Note
1	Digital Volt Meter		
2	Frequency Counter		
3	Registration Chart	VFK0673	
4	High voltage prove		Use For High Voltage measurement
5	Screwdriver(for adjustment).Hex Wrench		The screwdriver use the made by resin

The camera recorder becomes necessary separately for the all-kind control such as the aspect changing to the others.

1-2 Adjustment preparation

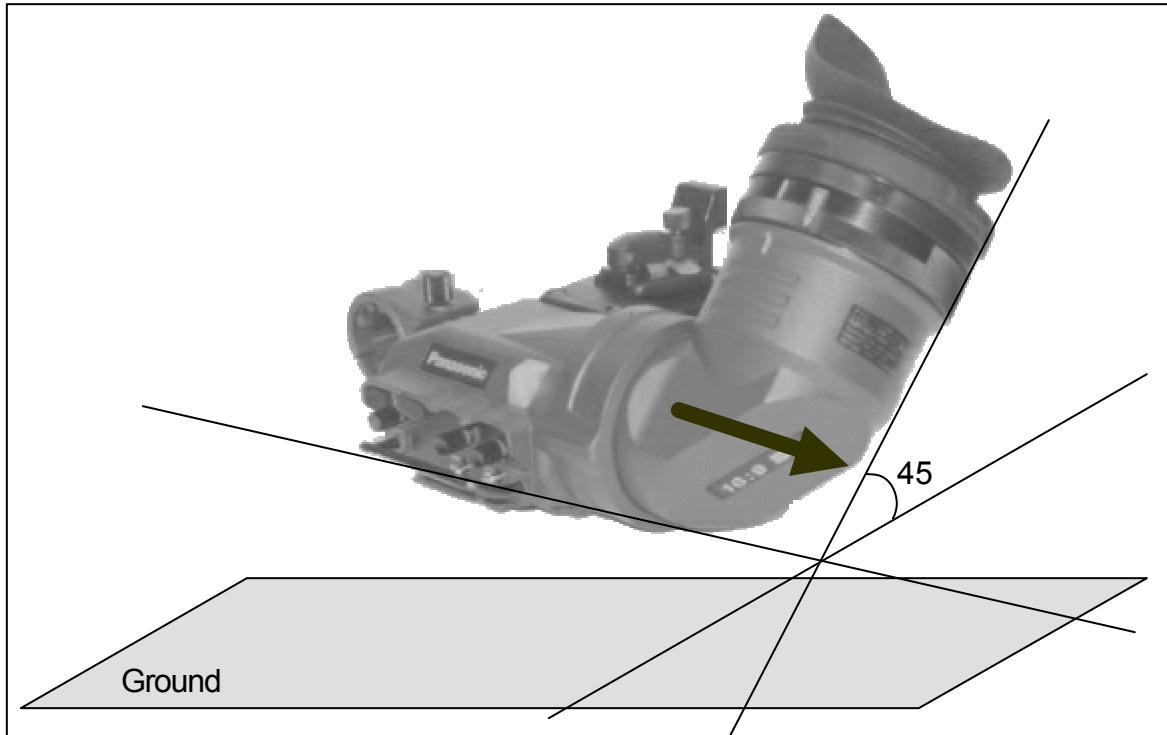
Execute an adjustment under the following environment to attempt various adjustment precision improvement.

(1)Horizontally set the viewfinder unit and Aim the CRT face side as follows.

A) Northern Hemisphere ----- North Direction

B) Southern Hemisphere ----- South Direction

(2) Adjust the angle of the eye piece by 45 as shown below.



2. Electrical Adjustment Procedure (AJ-VF15)

2-1. Power voltage Adjustment

BOARD	MAIN BOARD
SPEC	9.5V +/- 0.1V
TEST	TP2 (CN3 Connector 1pin)
ADJUST	RV1 [V0-ADJ]
M.EQ	Digital Volt Meter

1. Adjust **RV1** so that the Voltage at **TP2** is 9.5V+/-0.1V.

2-2. V Free Run Adjustment

BOARD	MAIN BOARD / SUB1 BOARD
SPEC	48Hz+/- 0.5Hz (NTSC) 38Hz+/- 0.5Hz (PAL)
TEST	TP12 (CN2 Connector 4pin) /MAIN BOARD
ADJUST	RV2 [V-HOLD] / SUB1 BOARD
M.EQ	Frequency Counter

1. Adjust **RV2** so that the frequency at **TP12** is 48Hz+/-0.5Hz (NTSC) / 38Hz+/- 0.5Hz (PAL)

2-3. H Free Run Adjustment

BOARD	MAIN BOARD / SUB1 BOARD
SPEC	15.73+/-0.05kHz (NTSC) 15.63+/-0.05kHz (PAL)
TEST	TP9 (CN2 Connector 1pin) /MAIN BOARD
ADJUST	RV1 [H-HOLD] /SUB1 BOARD
M.EQ	Frequency Counter

1. Adjust **RV1** so that the frequency at **TP9** is 48Hz+/-0.5Hz (NTSC) / 38Hz+/-0.5Hz (PAL).

2-4. Focus Adjustment

BOARD	MAIN BOARD
SPEC	5.8kV +/- 0.1kV
TEST	High Voltage Connector (FBT Side)
ADJUST	RV5 [FOCUS]
M.EQ	Digital Volt meter [Use High voltage prove]

1. Set the **CONTRAST VR**, **BRIGHT VR** to the center and

- PEAKING VR to the minimum position.
2. Connect the high voltage voltmeter with the high voltage prove to the connector between the FBT and anode cap.
3. Adjust **RV5** so that the High Voltage is within specification.

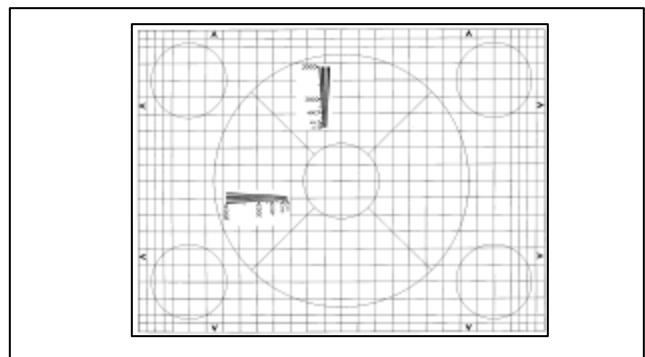


Fig.1 Registration Chart

2-5. Screen size Adjustment

BOARD	MAIN BOARD / SUB1 BOARD
TEST	EVF Picture
ADJUST	RV3 [H-SIZE (WIDE)] / MAIN BOARD RV3 [V-SIZE] / SUB1 BOARD RV5 [V-SIZE (WIDE)] / SUB1 BOARD

Adjustment for 4 : 3 mode

1. Open the on-screen menu on the camera recorder in the 3:4 mode so that the EVF screen is 4:3.
2. Adjust **RV3** (On SUB1 BOARD) so that the V-BLK as is within 1.5point scale shown in figure 2.
3. Adjust the **RV3** (On MAIN BOARD) so that the circle of chart is most round.

Note : This adjustment should be performed after completion the Size Adjustment in the 4:3 mode.

Adjustment for 16:9 mode

1. Open the on-screen menu on the camera recorder in the 16:9 mode so that the EVF screen is 16:9.
2. Adjust **RV5** (On SUB1 BOARD) so that the circle of chart is most round.

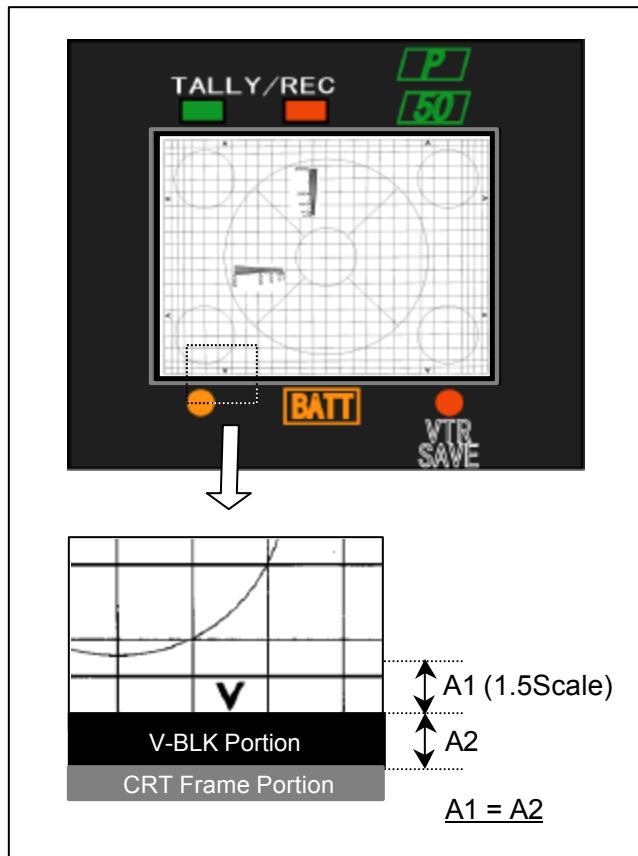


Fig.2 Screen size Adjustment

2-6. Brightness Adjustment

BOARD	SUB2 BOARD
SPEC	Pedestal Portion is Just Dark
TEST	EVF Picture
ADJUST	RV4 [SUB BRIGHT]
SIGNAL	Color Bar from Camera Recorder

Adjustment for 4:3 mode

1. Open the on-screen menu on the camera recorder in the 3:4 mode so that the EVF screen is 4:3.
2. Set the camera recorder in the color bar output mode.
3. Set the **BRIGHT VR**, **CONTRAST VR** to the center position and **PEAKING VR** to the minimum position.
4. Adjust **RV4** at the point where the brightness of the pedestal portion changes from bright to just dark. (Figure.3)

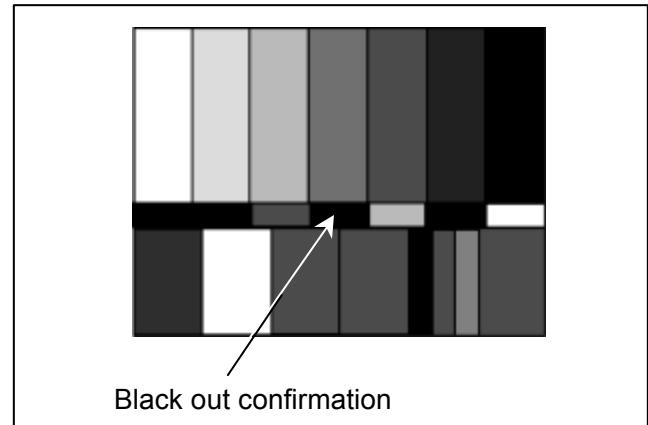


Fig.3 Brightness Adjustment

2-7. High voltage regulator Adjustment

BOARD	MAIN BOARD
SPEC	6.0V+/-0.1V
TEST	TP11 (IC9 7pin)
ADJUST	RV6 [OPAMP-ADJ]
M.EQ	Digital Volt meter

1. Set the **BRIGHT VR**, **CONTRAST VR** and **PEAKING VR** to the minimum position.
2. Adjust **RV6** so that the voltage is 6.0V+/-0.1V.

2-8. Heater voltage Adjustment

BOARD	MAIN BOARD
SPEC	635mV+/-15mV (DC)
TEST	TP5 – TP6 (CN5 connector 3pin-4pin)
ADJUST	RV7 [VH-ADJ]
M.EQ	Digital Volt meter

1. Adjust **RV7** so that the heater voltage is 635mV+/-15mV (DC).

2-9. Peaking Balance Adjustment

BOARD	MAIN BOARD / SUB2 BOARD
SPEC	3.9v+/-0.1v Peaking A = Peaking B
TEST	Pin 16 of CN1 and EVF Picture
ADJUST	RV2 [PEAK-OFFSET]
M.EQ	Digital Volt Meter

1. Set the **BRIGHT VR** to the minimum position, **CONTRAST VR** to the center position and **PEAKING VR** to the maximum position.
2. Open the on-screen menu on the camera recorder in the 3:4 mode so that the EVF screen is 4:3.
3. Aim the camera recorder to the registration chart, and adjust the zoom and focus so that the full-size and best focus registration chart is displayed on the screen of the EVF.
4. Adjust **RV2** so that the both peaking width "A" and "B" are equal.(Figure.4)

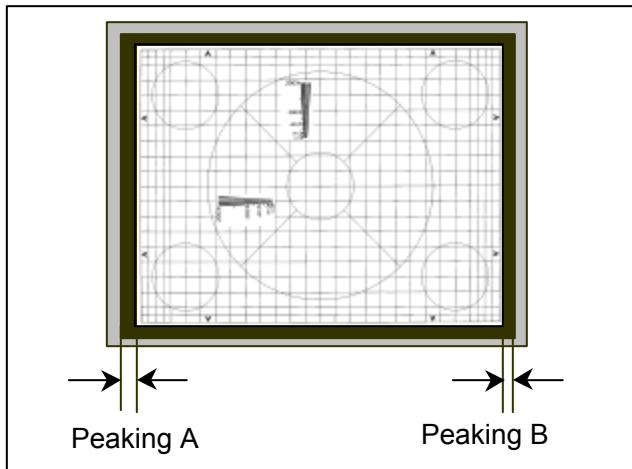


Fig.4 Peaking Balance adjustment

3. Electrical Adjustment Procedures (AJ-VF20W)

3-1. Power voltage Adjustment

BOARD	MAIN BOARD
SPEC	9.5v+/-0.1v
TEST	TP2 (Pin 1 of CN3)
ADJUST	RV1 [V0-ADJ]
M.EQ	Digital Volt Meter

1. Adjust **RV1** so that the voltage is within the specification.

3-2. V. Hold Adjustment

BOARD	MAIN BOARD / SUB1 BOARD
SPEC	48+/-0.5Hz (NTSC) 38+/-0.5Hz (PAL)
TEST	TP12 (Pin 4 of CN2)/ MAIN BOARD
ADJUST	RV2 [V-HOLD] / SUB1 BOARD
M.EQ	Frequency Counter

1. Adjust **RV2** so that the frequency is within the specification.

3-3. H. Hold Adjustment

BOARD	MAIN BOARD / SUB1 BOARD
SPEC	15.73+/-0.05kHz (NTSC) 15.63+/-0.05kHz (PAL)
TEST	TP9 (Pin 1 of CN2)/MAIN BOARD
ADJUST	RV1 [H-HOLD]/SUB1 BOARD
M.EQ	Frequency Counter

1. Adjust **RV1** so that the frequency is within the specification.

3-4. Focus Adjustment

BOARD	MAIN BOARD
SPEC	6.0kv+/-0.1kv
TEST	Connector between FBT/ Anode Cap
ADJUST	RV5 [FOCUS]
M.EQ	High Voltage Meter with High Voltage Probe

1. Aim the camera recorder to the registration chart and adjust the zoom and focus so that the full-size and best focus registration picture is displayed on the screen of EVF.
2. Connect a high volt meter with high voltage probe to the connector the anode cap and FBT.
3. Adjust **RV5** so that the high voltage is within the specification.

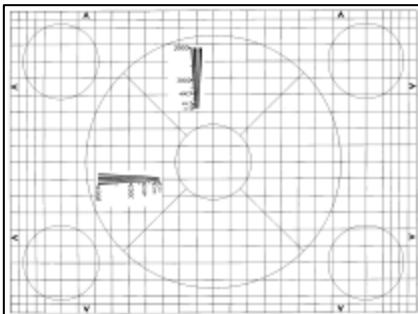


Fig.5 Registration Chart

3-5. Screen Size Adjustment1 (4:3Mode)

BOARD	MAIN BOARD / SUB1 BOARD
TEST	EVF Screen
ADJUST	RV4 [H-SIZE(HLC)] / MAIN BOARD RV3 [V-SIZE] / SUB1 BOARD

1. Open the on-screen menu on the camera recorder in the 16:9 mode so that the EVF screen is 16:9.
2. Aim the camera recorder to the registration chart and adjust the zoom and focus so that the full-size and best focus registration picture is displayed on the screen of EVF.
3. Adjust **RV3** (On SUB1 BOARD) so that the width of V portion "A1" is 1.5 scale as shown in figure 6.
4. Adjust **RV4** (On Main BOARD) so that the circles at the 4 corners are most round.

3-5. Screen Size Adjustment 2 (16:9 Mode)

BOARD	MAIN BOARD
TEST	EVF Screen
ADJUST	RV3 [H-SIZE (WIDE)] RV8 [H-LIN]
M.EQ	Digital Volt Meter

1. Open the on-screen menu on the camera recorder in the 3:4 mode so that the EVF screen is 16:9.
2. Adjust **RV3** and **RV8** so that the width of H blanking at the both side is 1.5 scale as shown figure 6.
3. Adjust the centering magnet so that the picture is positioned in the escutcheon shown in figure 6.

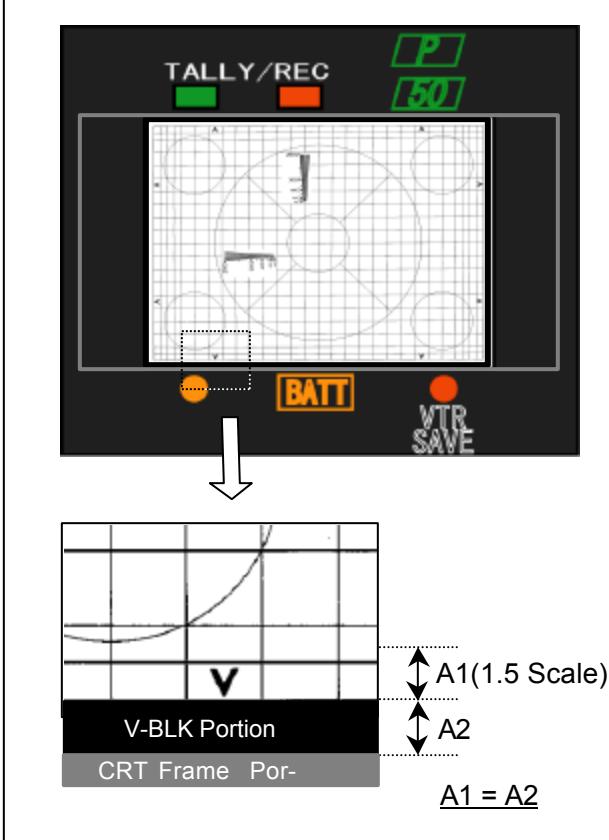


Fig.6 Screen Size Adjustment

3-6. Brightness Adjustment 1 (4:3 Mode)

BOARD	SUB2 BOARD
SPEC	Pedestal Portion is Just Dark
TEST	EVF Screen
ADJUST	RV4 [SUB BRIGHT]
SIGNAL	Color Bar Signal from Camera Recorder

1. Open the on-screen menu on the camera recorder in the 3:4 mode so that the EVF screen is 4:3.
2. Turn "On" the color bare mode in the camera recorder as shown in figure 7.
3. Set the **BRIGHT VR** and **CONTRAST VR** at the center position, and **PEAKING VR** at the minimum position.
4. Adjust **RV4** at the position just the illumination of the pedestal changes from just slightly light to dark.

3-6. Brightness Adjustment 2

(16:9 Mode)

BOARD	SUB2 BOARD
SPEC	Pedestal Portion is Just Dark
TEST	EVF Screen
ADJUST	RV6 [SUB BRIGHT (WIDE)]
SIGNAL	Color Bar Signal from Camera Recorder

1. Open the on-screen menu on the camera recorder in the 16: 9 mode so that the EVF screen is 16: 9 too.
2. Turn “On” the color bare mode in the camera recorder.
3. Set the **BRIGHT VR** and **CONTRAST VR** at the center and **PEAKING VR** at the minimum position.
4. Adjust **RV4** at the position just the illumination of the pedestal changes from just slightly light to dark.

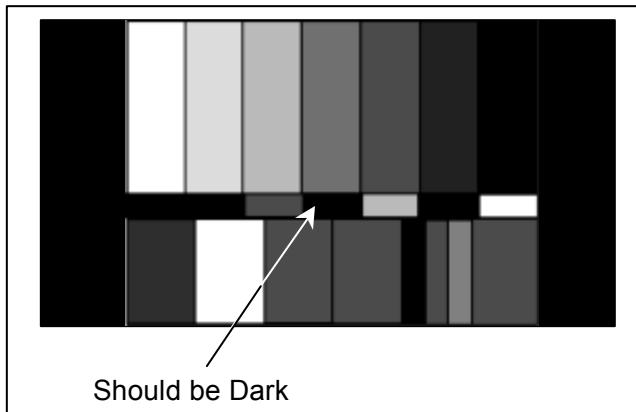


Fig.7 Brightness Adjustment

3-7. High Voltage Regulator Adjustment

BOARD	MAIN BOARD
SPEC	6.0v+/-0.1v
TEST	TP11 (Pin 7 of IC9)
ADJUST	RV6 [OPAMP-ADJ]
M.EQ	Digital Voltmeter

1. Set the **BRIGHT VR**, **CONTRAST VR** and **PEAKING VR** at the minimum position.
2. Open the on-screen menu on the camera recorder in the 16:9 mode so that the EVF screen is 16:9 too.
3. Connect the digital voltmeter to **TP11**.
4. Adjust **RV6** so that the voltage is 6.0V +/- 0.1V.

3-8. Heater Voltage Adjustment

BOARD	MAIN BOARD
SPEC	635mV+/-15mV (DC)
TEST	TP5 (Hot) & TP6 GND (Pins 3 & 4 CN5)
ADJUST	RV7 [VH-ADJ]
M.EQ	Digital Voltmeter

1. Connect the voltmeter to **TP5** (Hot) and **TP6** (GND).
2. Adjust **RV7** so that the voltage is 635mV+/-15mV.

3-9. Peaking Balance Adjustment

BOARD	MAIN BOARD / SUB2 BOARD
SPEC	3.9V+/-0.1V Peaking A = Peaking B
TEST	Pin 16 of CN1 / EVF Screen
ADJUST	RV2 [PEAK-OFFSET]
M.EQ	Digital Voltmeter

1. Set the **BRIGHT VR** and **CONTRAST VR** at the center, **PEAKING VR** at maximum position.
2. Aim the camera recorder to the registration chart and adjust the zoom and focus so that the full size of the chart is displayed on the EVF screen.
3. Open the on-screen menu on the camera recorder in the 16:9 mode so that the EVF screen is 16: 9.
4. Adjust **RV2** so that the both peaking width “A” and “B” are equal. (Figure.8)

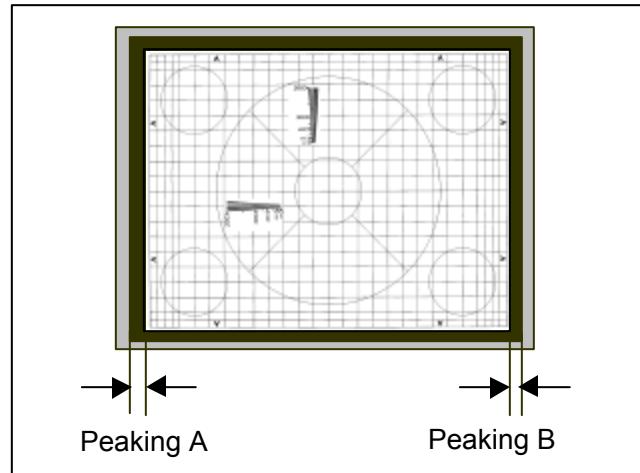


Fig.8 Peaking Balance adjustment

SECTION 4

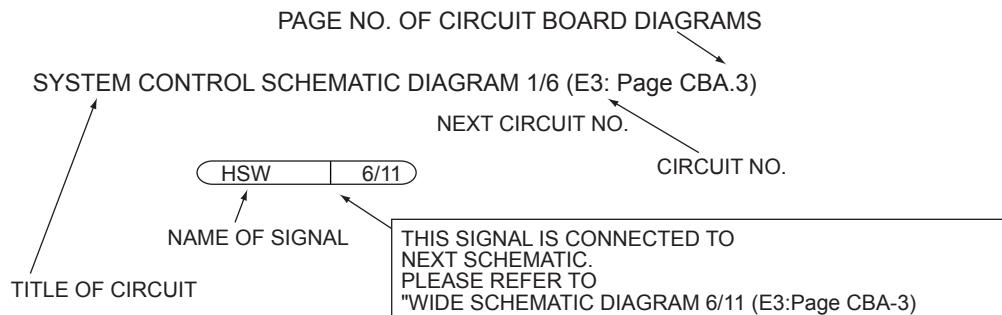
BLOCK DIAGRAMS SCHEMATIC DIAGRAMS CIRCUIT BOARD DIAGRAMS

Note:

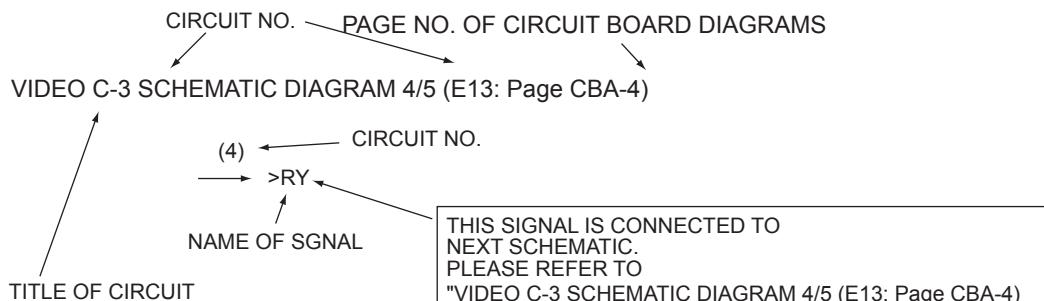
1. Do not use the part number shown on the schematic diagram or P.C. Board layout for ordering.
The correct part number for ordering is shown in the Exploded Views / Parts List section.
2. Unless otherwise specified, all resistors are in OHMS, K=1,000 OHMS, all capacitors are in MICROFARADS (uF), P=uuF.

NOTE

(EX 1)



(EX 2)



* Mark ➡ Parts value, see table in the schematic diagram.

(EX:)

	AJ-D700	AJ-D800
R2018	10K	10K
R2019	20K	*PAT

10K ohm
No part

CONTENTS

EVF BLOCK DIAGRAMS	BLK1
MAIN SCHEMATICK DIAGRAMS	SCM1
MAIN SUB1 SCHEMATICK DIAGRAMS	SCM2
MAIN SUB2 SCHEMATICK DIAGRAMS	SCM3
MAIN P.C.BOARD	PTN1
MAIN SUB1 P.C.BOARD	PTN1
MAIN SUB2 P.C.BOARD	PTN2
LED P.C.BOARD	PTN2

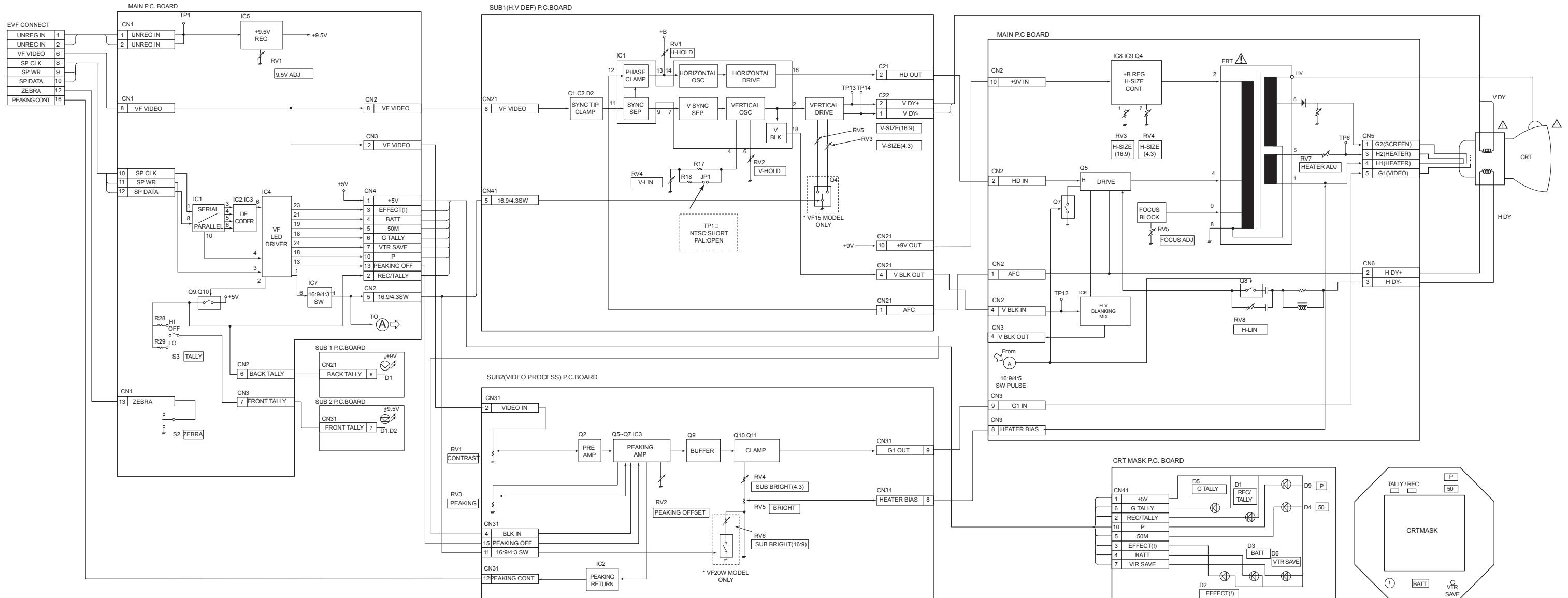
CAUTION

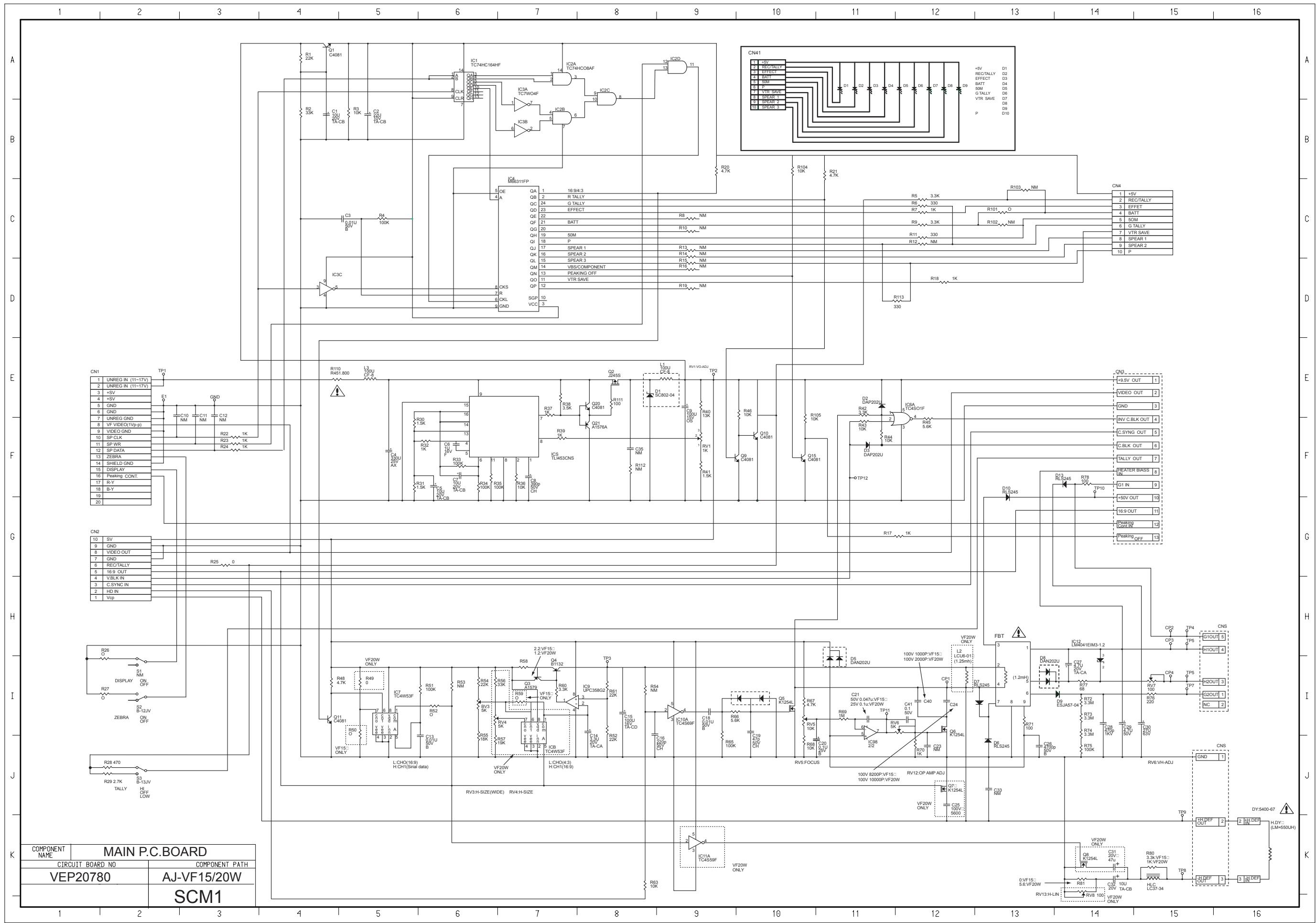
THE [] MARK INDICATES THE PRIMARY CIRCUIT TO DISTINGUISH THE PRIMARY FROM THE SECONDARY CIRCUIT.
PAY ATTENTION NOT TO RECEIVE AN ELECTRIC SHOCK DURING REPAIR AND SERVICE OF THE PRODUCTS.

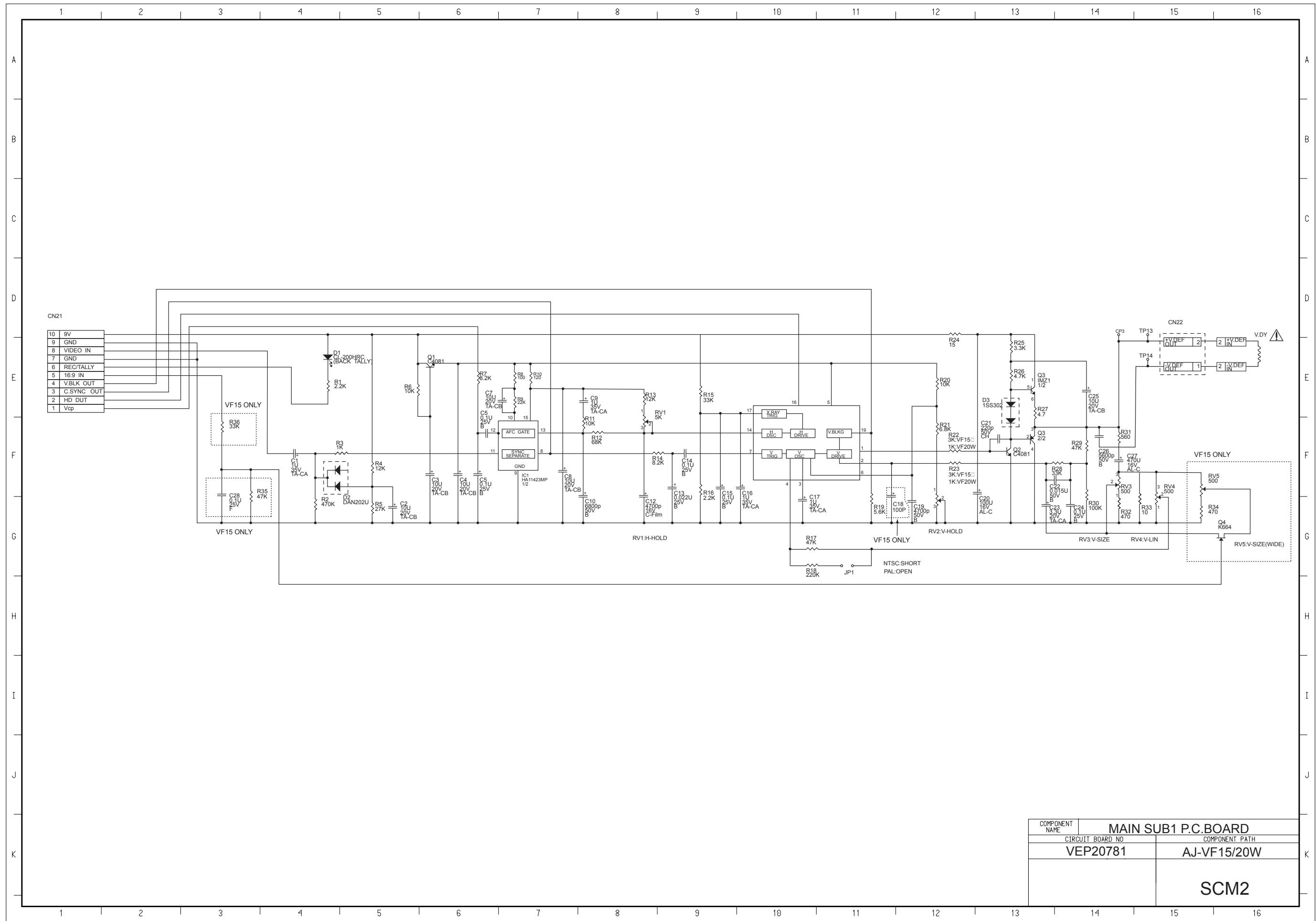
IMPORTANT SAFETY NOTICE:

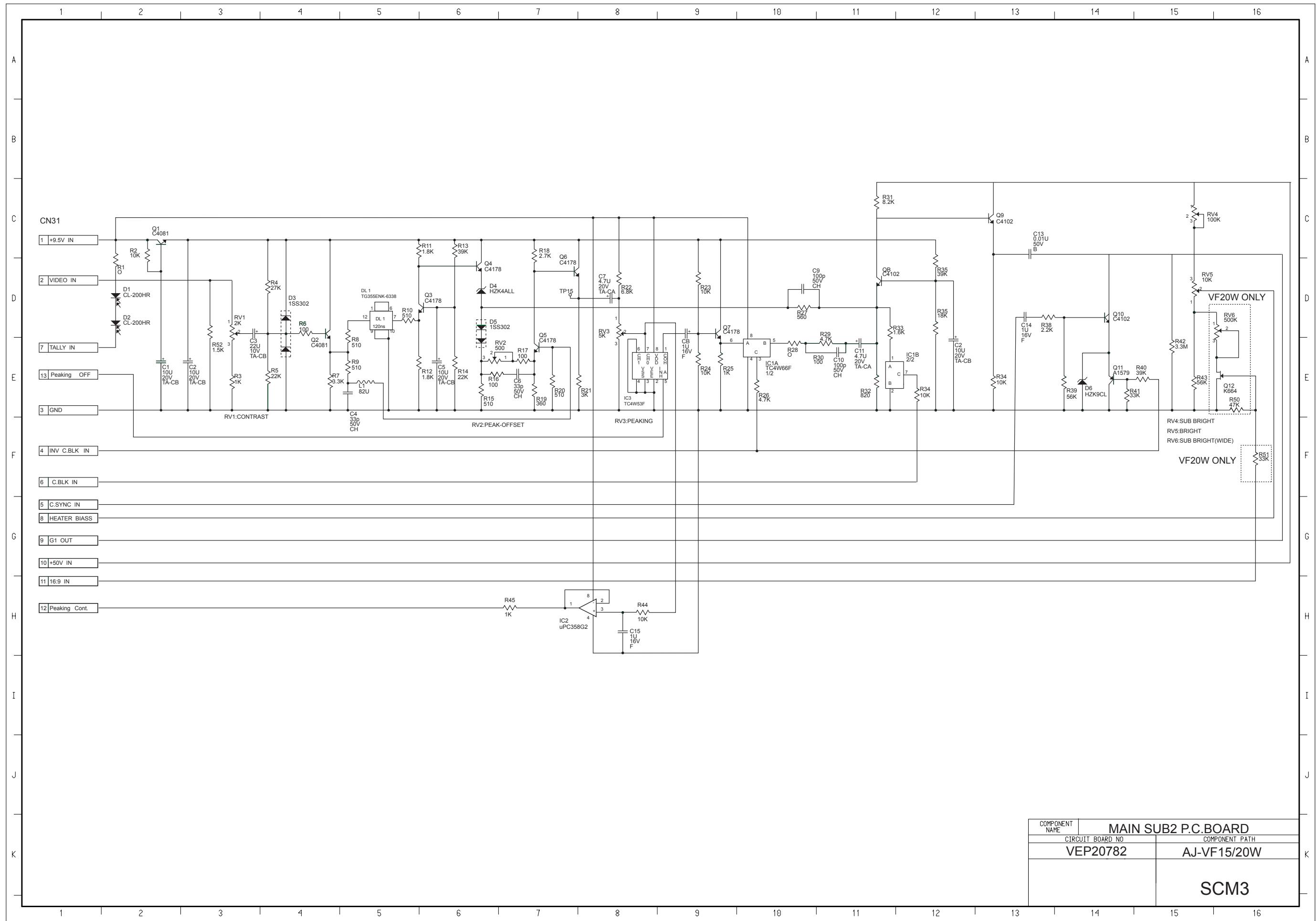
Components identified with the mark  have the special characteristics for safety.
When replacing any of these components, use only the same type.

EVF BLOCK DIAGRAM









SECTION 5

EXPLODED VIEWS

&

REPLACEMENT PARTS LIST

Note:

1. *Be sure to make your orders of replacement parts according to this list.
2. Unless otherwise specified, all resistors are in OHMS, K=1,000 OHMS, all capacitors are in MICROFARADS (μ F), P= pF.
3. The P.C. Board units marked with "n" shown below the main assembled parts.
4. The parts marked with \odot on the exploded view show the electric parts.
5. **IMPORTANT SAFETY NOTICE**
Components identified with the mark \triangleleft have the special characteristics for safety. When replacing any of these components, use only the same type.
6. The marking (RTL) indicates the retention time is limited for this item.
After the discontinuation of this assembly in production, it will no longer be available

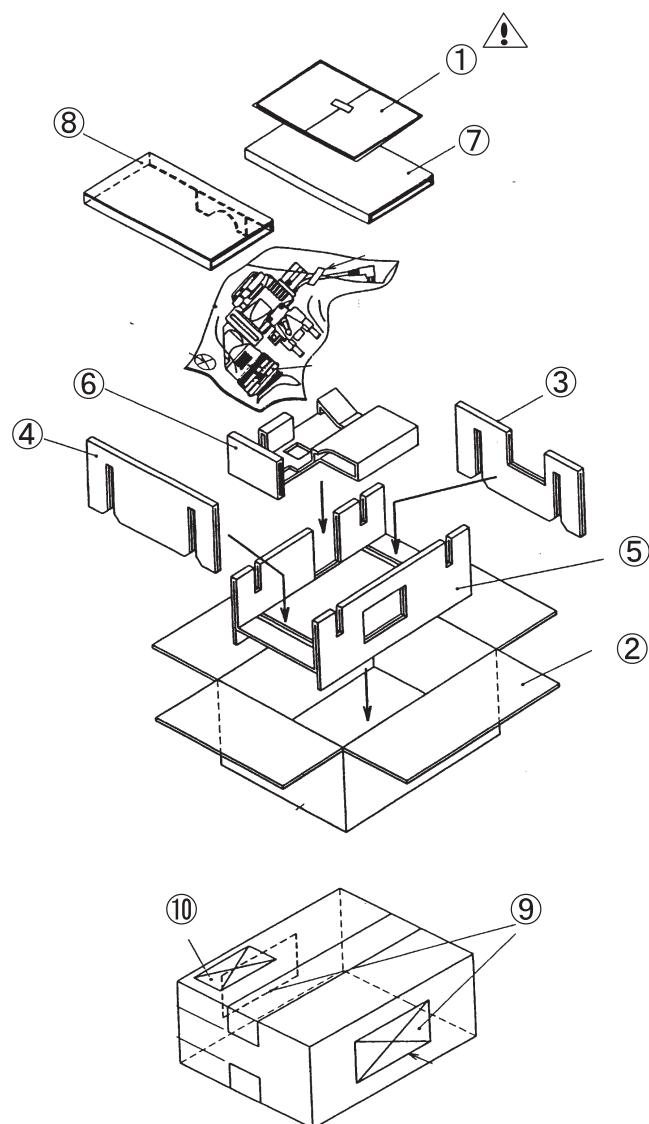
<<Abbreviations for part>>

<NAME>	<DESCRIPTIONS>
C. CAPACITOR	: CERAMIC CAPACITOR
C. CAPACITOR	: CERAMIC CHIP CAPACITOR
E. CAPACITOR	: ELECTROLYTIC CAPACITOR
G. CAPACITOR	: GLASS CAPACITOR
M. CAPACITOR	: MICA CAPACITOR
P. CAPACITOR	: PLASTIC FILM CAPACITOR
S. CAPACITOR	: SEMI-CONDUCTOR CAPACITOR
T. CAPACITOR	: TANTALUM CAPACITOR
TRIMMER	: TRIMMER
C. RESISTOR	: CARBON RESISTOR
F. RESISTOR	: FUSE RESISTOR
M. RESISTOR	: METAL OXIDE RESISTOR
M. RESISTOR	: METAL OXIDE CHIP RESISTOR
S. RESISTOR	: SOLID RESISTOR
V. RESISTOR	: VARIABLE RESISTOR
W. RESISTOR	: WIRE WOUND RESISTOR
COMBI. TR-R	: TRANSISTOR-RESISTOR COMBINATION PARTS
COMBI. R-R	: RESISTOR-RESISTOR COMBINATION PARTS
COMBI. C-R	: CAPACITOR-RESISTOR COMBINATION PARTS
COMBI. C-R-R	: CAPACITOR-RESISTOR-COIL COMBINATION PARTS
P.C. BOARD W/COMPONENT	: PRINTED CIRCUIT BOARD : WITHCOMPONENT

CONTENTS

Packing Parts Assembly	PRT1
Mechanical Parts Assembly	PRT2
Electrical Replacement Parts List	PRT4

PACKING PARTS ASSEMBLY



PACKING PARTS ASSEMBLY

AJ-YAD230P

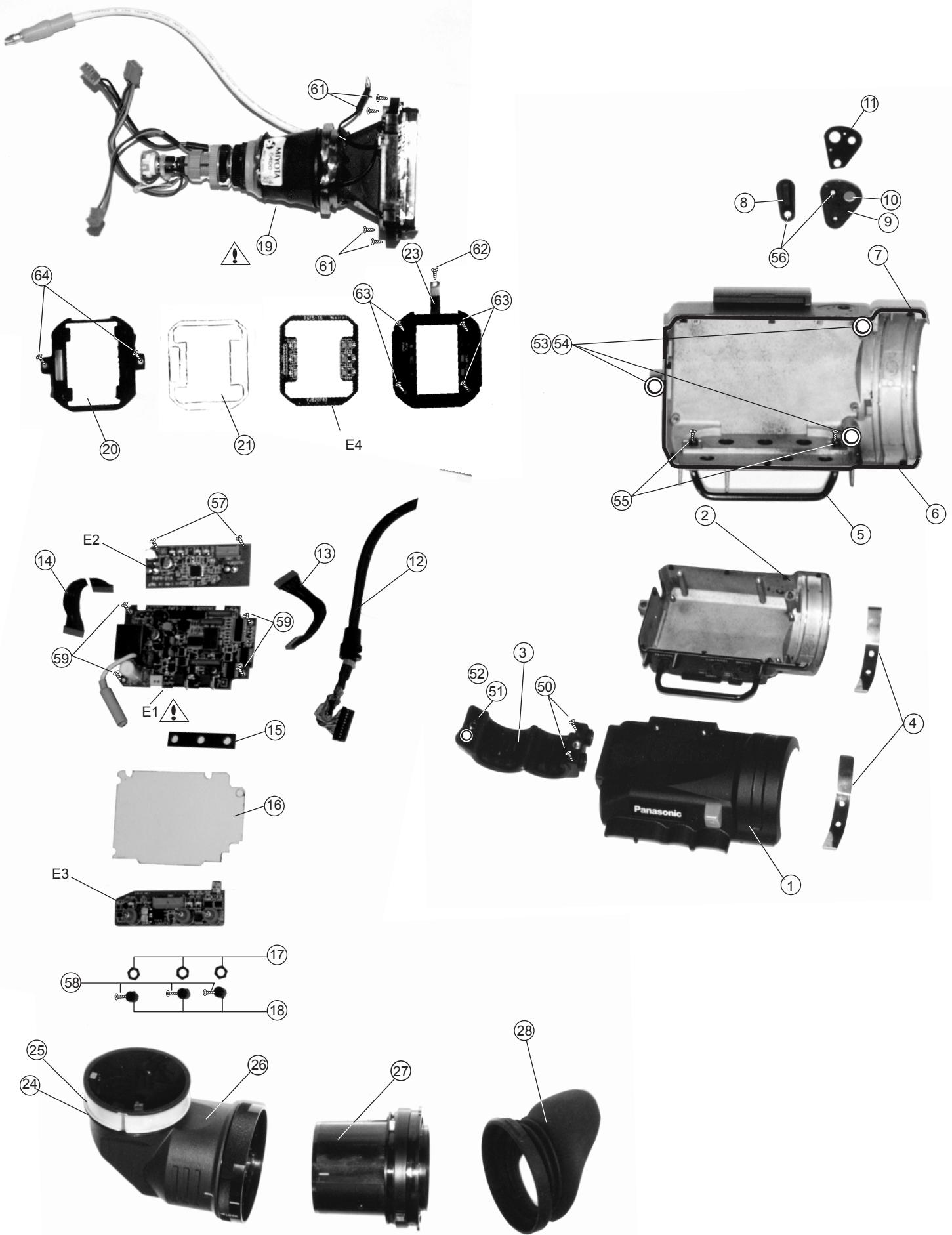
Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
1	VQT8082	OPERATING INSTRUCTION	1	
2	VPG0A71	PACKING CASE	1	
3	VPN5247	CUSHION A	1	
4	VPN5248	CUSHION B	1	
5	VPN5249	CUSHION C	1	
6	VPN5250	CUSHION D	1	
7	VPN5251	CUSHION E	1	
8	VPN5252	CUSHION F	1	
9	VQL9822	PACKING LABEL	1	
10	VQL8185	CAUTION LABEL	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks

AJ-VF15P_E/VF20WP_E

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
1	YVK9294	TOP CASE ASS'Y	1	
2	YVK9295	BOTTOM CASE ASS'Y	1	
3	VXF0172	MIC HOLDER ASS'Y	1	
4	VMC1513	PLATE SPRING	1	
5	VKH0389	GUARD BAR	1	
6	VMG1217	CASE PACKING (1)	1	
7	VMG1218	CASE PACKING (2)	1	
8	VGU8170	TALLY KNOB	1	
9	VGQ5321	TALLY BASE	1	
10	VGL0837	TALLY COVER	1	
11	VMG1219	TALLY SHEET	1	
12	VEC0969	VF CABLE	1	
13	VEE0J46	13P CABLE	1	
14	VEE0J45	10P CABLE	1	
15	VMG1225	SWITCH PACKING	1	
16	VMZ2914	INSULATION	1	
17	VHD1264	VR NUT	3	
18	VGU8171	VR KNOB	3	
19	VEK8926	CRT/DY ASS'Y	1	
20	VGH4300	DISPLAY PLATE	1	
21	VMZ2915	MASK SHEET	1	
22	VEE0J45	10P CABLE	1	
23	VMX2890	MASK SPACER	1	
24	VMG1221	LENS LOCK PACKING	1	
25	VMX2886	SLIP RING	1	
26	VGP5040	OUT SIDE HOLDER	1	
27	VDW0638	LENS CASE	1	
28	VMG1224	EYE CAP	1	
29	VMX1558	NYLON WASHER	2	
30	VGM1657	LOCK BASE	1	
31	VGM1655	LOCK TABLE	1	
32	VGM1456	PLATE(B)	1	
33	VMS6274	SHAFT(B)	1	
34	VGM1455	PLATE(A)	1	
35	VMS6221	LOCK SPACER	1	
36	VHD0991	INSERT SCREW	1	
37	VHD0990	LOCK SCREW	1	
38	VGU7714	LOCK LEVER	1	
39	VMS6275	EVF LOCK SHAFT	1	
40	VMB3027	SPRING	1	
41	VMP5089	COVER	1	
42	VMS6273	SHAFT(A)	2	
43	VYQ1818	EVF ATTACHMENT ASSY	1	
50	XSB4+12FXK3	SCREW	2	
51	VHD1265	SCREW	1	
52	VMX2889	WASHER	1	
54	VMX2885	WASHER	3	
59	XSB2+4FC	SCREW	4	
65	XSB3+8VZ	SCREW	5	
66	XSB5+8VCK	SCREW	3	
67	XSN26+10FZ	SCREW	3	
68	XXEV3W3FP	SCREW	3	
69	XWA3BFZ	WASHER	3	
70	XWA5BFZ	WASHER	1	
71	XUC2FP	E-RING	1	
E1	VEP20780C	MAIN P.C.BOARD	1	
E2	VEP20781C	SUB 1 P.C.BOARD	1	
E3	VEP20782A	SUB 2 P.C.BOARD	1	
E4	VEP20783A	LED P.C.BOARD	1	

MECHANICAL PARTS ASSEMBLY



AJ-VF15P/E

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks	Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
• i E1	VEP20780B	MAIN P.C.BOARD	1	(RTL)AJ-VF15P	IC5	TL1453CNS	IC	1	
• i E1	VEP20780D	MAIN P.C.BOARD	1	(RTL)AJ-VF15E	IC6	TC4S01F	IC	1	
• i E2	VEP20781B	SUB 1 P.C.BOARD	1	(RTL)AJ-VF15P	IC7	TC4W53F	IC	1	
• i E2	VEP20781D	SUB 1 P.C.BOARD	1	(RTL)AJ-VF15E	IC9	UPC358G2-E2	IC	1	
• i E3	VEP20782B	SUB 2 P.C.BOARD	1	(RTL)	IC10	TC4S69F	IC	1	
• i E4	VEP20783A	LED P.C.BOARD	1	(RTL)	IC12	LM4041E1M3	IC	1	
					L1	VLQ0891	COIL	1	
					L3	VLQ0891	COIL	1	
					Q1	2SC4081	TRANSISTOR	1	
					Q2	2SJ245S	TRANSISTOR	1	
					Q3	2SA1579	TRANSISTOR	1	
					Q4	2SB1132T100	TRANSISTOR	1	
					Q5,Q6	2SK1254L	TRANSISTOR	2	
					Q9-11	2SC4081	TRANSISTOR	3	
					Q15	2SC4081	TRANSISTOR	1	
					Q20	2SC4081	TRANSISTOR	1	
					Q21	2SA1576A	TRANSISTOR	1	
					R1	ERJ6GEYG22	M.RESISTOR CH 1/10W 22	1	
					R2	ERJ6GEYG33	M.RESISTOR CH 1/10W 33	1	
					R3	ERJ6GEYG10	M.RESISTOR CH 1/10W 10	1	
					R4	ERJ6GEYG10	M.RESISTOR CH 1/10W 100	1	
					R5	ERJ6GEYG33	M.RESISTOR CH 1/10W 3.3	1	
					R6	ERJ6GEYG33	M.RESISTOR CH 1/10W 33	1	
					R7	ERJ6GEYG10	M.RESISTOR CH 1/10W 1K	1	
					R9	ERJ6GEYG33	M.RESISTOR CH 1/10W 3.3	1	
					R11	ERJ6GEYG33	M.RESISTOR CH 1/10W 33	1	
					R17,18	ERJ6GEYG10	M.RESISTOR CH 1/10W 1K	2	
					R20,21	ERJ6GEYG47	M.RESISTOR CH 1/10W 4.7	2	
					R22-24	ERJ6GEYG10	M.RESISTOR CH 1/10W 1K	3	
					R25-27	ERJ6GEY0R0	M.RESISTOR CH 1/10W 0	3	
					R28	ERJ6GEYJ47	M.RESISTOR CH 1/10W 47	1	
					R29	ERJ6GEYG27	M.RESISTOR CH 1/10W 2.7	1	
					R30,31	ERJ6GEYG15	M.RESISTOR CH 1/10W 1.5	2	
					R32	ERJ6GEYG10	M.RESISTOR CH 1/10W 1K	1	
					R33-35	ERJ6GEYG10	M.RESISTOR CH 1/10W 100	3	
					R36	ERJ6GEYG10	M.RESISTOR CH 1/10W 10	1	
					R37	ERJ6GEYG10	M.RESISTOR CH 1/10W 1K	1	
					R38	ERJ6GEYG36	M.RESISTOR CH 1/10W 3.6	1	
					R39	ERJ6GEYG10	M.RESISTOR CH 1/10W 1K	1	
					R40	ERJ6GEYG13	M.RESISTOR CH 1/10W 1.3	1	
					R41	ERJ6GEYG15	M.RESISTOR CH 1/10W 1.5	1	
					R42	ERJ6GEYG33	M.RESISTOR CH 1/10W 3.3	1	
					R43,44	ERJ6GEYG10	M.RESISTOR CH 1/10W 10	2	
					R45	ERJ6GEYG56	M.RESISTOR CH 1/10W 5.6	1	
					R46	ERJ6GEYG10	M.RESISTOR CH 1/10W 10	1	
					R48	ERJ6GEYG47	M.RESISTOR CH 1/10W 4.7	1	
					R50	ERJ6GEY0R0	M.RESISTOR CH 1/10W 0	1	
					R51	ERJ6GEYG10	M.RESISTOR CH 1/10W 100	1	
					R52	ERJ6GEY0R0	M.RESISTOR CH 1/10W 0	1	
					R54	ERJ6GEYG22	M.RESISTOR CH 1/10W 22	1	
					R55	ERJ6GEYG18	M.RESISTOR CH 1/10W 18	1	
					R58	ERJ8GEYJ2R	M.RESISTOR CH 1/8W 2.2	1	
					R59	ERJ6GEY0R0	M.RESISTOR CH 1/10W 0	1	
					R60	ERJ6GEYG33	M.RESISTOR CH 1/10W 3.3	1	
					R61,62	ERJ6GEYG22	M.RESISTOR CH 1/10W 22	2	
					R63	ERJ6GEYG10	M.RESISTOR CH 1/10W 10	1	
					R65	ERJ6GEYG10	M.RESISTOR CH 1/10W 100	1	
					R66	ERJ6GEYG56	M.RESISTOR CH 1/10W 5.6	1	
					R67	ERJ6GEYF47	M.RESISTOR CH 1/10W 4.7	1	
					R68	ERJ6GEYG10	M.RESISTOR CH 1/10W 10	1	
					R69	ERJ6GEYG10	M.RESISTOR CH 1/10W 1M	1	
					R70	ERJ6GEYG10	M.RESISTOR CH 1/10W 1K	1	
					R71	ERJ6GEYG10	M.RESISTOR CH 1/10W 100	1	
					R72-74	ERJ6GEYJ33	M.RESISTOR CH 1/10W 3.3	3	
					R75	ERJ6GEYG10	M.RESISTOR CH 1/10W 100	1	
					R76	ERJ6GEYG22	M.RESISTOR CH 1/10W 22	1	
					R77	ERJ6GEYG68	M.RESISTOR CH 1/10W 68	1	
					R78	ERJ6GEYG10	M.RESISTOR CH 1/10W 100	1	
					R80	ERJ6GEYG33	M.RESISTOR CH 1/10W 3.3	1	
					R81	ERJ6GEY0R0	M.RESISTOR CH 1/10W 0	1	
					R101	ERJ6GEY0R0	M.RESISTOR CH 1/10W 0	1	
					R104,05	ERJ6GEYG10	M.RESISTOR CH 1/10W 10	2	

AJ-VF15P/E

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
R110	VR0218	M.RESISTOR	1	
R111	ERJ6GEYG10	M.RESISTOR CH 1/10W 100	1	
RV1	VRV0303B102	V.RESISTOR 1K	1	
RV3	VRV0303B502	V.RESISTOR 5K	1	
RV5	VRV0303B103	V.RESISTOR 10K	1	
RV6	VRV0303B502	V.RESISTOR 5K	1	
RV7	VRV0303B101	V.RESISTOR 100	1	
S2	VST0332	TOGGLE SWITCH	1	
S3	VST0333	TOGGLE SWITCH	1	
		MISCELLANEOUS		
	VSC4926	SHIELD CASE	1	
• i E2	VEP20781B	SUB 1 P.C.BOARD	1	(RTL)AJ-VF15P
	VEP20781D	SUB 1 P.C.BOARD	1	(RTL)AJ-VF15E
C1	VCS1VQ105	E.CAPACITOR 35V 1M	1	
C2-C4	VCS1DQ106	E.CAPACITOR 20V 10M	3	
C5,C6	ECUX1E104K	C.CAPACITOR CH 25V 0.1U	2	
C7,C8	VCS1DQ106	E.CAPACITOR 20V 10M	2	
C9	VCS1VQ105	E.CAPACITOR 35V 1M	1	
C10	ECUX1H682K	C.CAPACITOR CH 50V 6800	1	
C12	ECHU1C472J	P.CAPACITOR 16V 4700P	1	
C13	ECUM1E223K	C.CAPACITOR CH 25V 0.023	1	
C14,15	ECUX1E104K	C.CAPACITOR CH 25V 0.1U	2	
C16,17	VCS1VQ105	E.CAPACITOR 35V 1M	2	
C19	ECUM1H472K	C.CAPACITOR CH 50V 4700	1	
C20	VCEV1CBJ10	E.CAPACITOR 16V 100U	1	
C21	ECUM1H221J	C.CAPACITOR CH 50V 220P	1	
C22	ECUM1H153K	C.CAPACITOR CH 50V 0.015	1	
C23	VCS1DQ335	E.CAPACITOR 20V 3.3M	1	
C24	ECUX1E104K	C.CAPACITOR CH 25V 0.1U	1	
C25	VCS1DQ106	E.CAPACITOR 20V 10M	1	
C26	ECUM1H562K	C.CAPACITOR CH 50V 5600	1	
C27	VCEV1CBL47	E.CAPACITOR 16V 470U	1	
C28	ECUX1E104K	C.CAPACITOR CH 25V 0.1U	1	
CN21	VJP1614	CONNECTOR (MALE)	1	
CN22	VJP1843	CONNECTOR (MALE)	1	
CP3	VJR1072	TEST POINT	1	
D1	CL-200HRCTU	LED	1	
D2	DAN202U-T10	DIODE	1	
D3	1SS302	DIODE	1	
IC1	HA11423MP	IC	1	
Q1,Q2	2SC4081	TRANSISTOR	2	
Q3	IMZ1	TRANSISTOR-RESISTOR	1	
Q4	2SK664	TRANSISTOR	1	
R1	ERJ6GEYG22	M.RESISTOR CH 1/10W 2.2K	1	
R2	ERJ6GEYG47	M.RESISTOR CH 1/10W 470	1	
R3	ERJ6GEYG10	M.RESISTOR CH 1/10W 1K	1	
R4	ERJ6GEYF12	M.RESISTOR CH 1/10W 12K	1	
R5	ERJ6GEYG27	M.RESISTOR CH 1/10W 27K	1	
R6	ERJ6GEYG10	M.RESISTOR CH 1/10W 10K	1	
R7	ERJ6GEYF82	M.RESISTOR CH 1/10W 8.2K	1	
R8	ERJ6GEYG10	M.RESISTOR CH 1/10W 10K	1	
R9	ERJ6GEYG22	M.RESISTOR CH 1/10W 22K	1	
R10	ERJ6GEYG12	M.RESISTOR CH 1/10W 120	1	
R11	ERJ6GEYG10	M.RESISTOR CH 1/10W 10K	1	
R12	ERJ6GEYG68	M.RESISTOR CH 1/10W 68K	1	
R13	ERJ6GEYF12	M.RESISTOR CH 1/10W 12K	1	
R14	ERJ6GEYF82	M.RESISTOR CH 1/10W 8.2K	1	
R15	ERJ6GEYF33	M.RESISTOR CH 1/10W 33K	1	
R16	ERJ6GEYG22	M.RESISTOR CH 1/10W 2.2K	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
R17	ERJ6GEYF47	M.RESISTOR CH 1/10W 47K	1	
R18	ERJ6GEYJ224	M.RESISTOR CH 1/10W 220	1	
R19	ERJ6GEYG56	M.RESISTOR CH 1/10W 5.6K	1	
R20	ERJ6GEYG10	M.RESISTOR CH 1/10W 10K	1	
R21	ERJ6GEYG68	M.RESISTOR CH 1/10W 6.8K	1	
R22	ERJ6GEYG30	M.RESISTOR CH 1/10W 3K	1	
R23	ERJ6GEYG10	M.RESISTOR CH 1/10W 10K	1	
R24	ERJ6GEYJ150	M.RESISTOR CH 1/10W 15K	1	
R25	ERJ6GEYG33	M.RESISTOR CH 1/10W 3.3K	1	
R26	ERJ6GEYF47	M.RESISTOR CH 1/10W 4.7K	1	
R27	ERJ6GEYJ47	M.RESISTOR CH 1/10W 4.7K	1	
R28	ERJ6GEYF33	M.RESISTOR CH 1/10W 33K	1	
R29	ERJ6GEYF47	M.RESISTOR CH 1/10W 47K	1	
R30	ERJ6GEYG10	M.RESISTOR CH 1/10W 100	1	
R31	ERJ6GEYF56	M.RESISTOR CH 1/10W 560	1	
R32	ERJ6GEYJ47	M.RESISTOR CH 1/10W 470	1	
R33	ERJ6GEYJ100	M.RESISTOR CH 1/10W 10	1	
R34	ERJ6GEYJ47	M.RESISTOR CH 1/10W 470	1	
R35	ERJ6GEYF47	M.RESISTOR CH 1/10W 47K	1	
R36	ERJ6GEYF33	M.RESISTOR CH 1/10W 33K	1	
RV1,V2	EVML1GA00B	V.RESISTOR 5K	2	
RV3-V5	EVML1GA00B	V.RESISTOR 500	3	
		MISCELLANEOUS		
	VMP6012	P.C.BOARD STAY	1	
	XSB2+4FC	SCREW	2	
• i E3	VEP20782B	SUB 2 P.C.BOARD	1	(RTL)
C1,C2	VCS1DQ106	E.CAPACITOR 20V 10M	2	
C3	VCS1AQ226	E.CAPACITOR 10V 22M	1	
C4	ECUM1H330J	C.CAPACITOR CH 50V 33P	1	
C5	VCS1DQ106	E.CAPACITOR 20V 10M	1	
C6	ECUM1H330J	C.CAPACITOR CH 50V 33P	1	
C7	VCS1DQ475	E.CAPACITOR 20V 4.7M	1	
C8	ECUM1C105Z	C.CAPACITOR CH 16V 1U	1	
C9,10	ECUM1H101J	C.CAPACITOR CH 50V 100P	2	
C11	VCS1DQ475	E.CAPACITOR 20V 4.7M	1	
C12	VCS1DQ106	E.CAPACITOR 20V 10M	1	
C13	ECUM1H103K	C.CAPACITOR CH 50V 0.01U	1	
C14,15	ECUM1C105Z	C.CAPACITOR CH 16V 1U	2	
CN31	VJP1943	CONNECTOR (MALE)	1	
D1,D2	CL200HR-CTU	DIODE	2	
D3	1SS302	DIODE	1	
D4	HZK4ALL	DIODE	1	
D5	1SS302	DIODE	1	
D6	HZK9CL	DIODE	1	
DL1	VLD0413	DELAY	1	
IC1	TC4W66F	IC	1	
IC2	UPC358G2-E2	IC	1	
IC3	TC4W53F	IC	1	
L1	VLQ0892	COIL	1	
Q1,Q2	2SC4081	TRANSISTOR	2	
Q3-Q7	2SC4178T1F1	TRANSISTOR	5	
Q8-10	2SC4102	TRANSISTOR	3	
Q11	2SA1579-T10	TRANSISTOR	1	
R1	ERJ6GEY0R0	M.RESISTOR CH 1/10W 0	1	
R2	ERJ6GEYG10	M.RESISTOR CH 1/10W 10K	1	
R3	ERJ6GEYG10	M.RESISTOR CH 1/10W 1K	1	
R4	ERJ6GEYG27	M.RESISTOR CH 1/10W 27K	1	
R5	ERJ6GEYG22	M.RESISTOR CH 1/10W 2.2K	1	

AJ-VF15P/E

AJ-VF15P/VF20WP

AJ-VF20WP/E

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
• i E1	VEP20780B	MAIN P.C.BOARD	1	(RTL)AJ-VF20WP
	VEP20780C	MAIN P.C.BOARD	1	(RTL)AJ-VF20WE
• i E2	VEP20781A	SUB 1 P.C.BOARD	1	(RTL)AJ-VF20WP
	VEP20781C	SUB 1 P.C.BOARD	1	(RTL)AJ-VF20WE
• i E3	VEP20782A	SUB 2 P.C.BOARD	1	(RTL)
• i E4	VEP20783A	LED P.C.BOARD	1	(RTL)
• i E1	VEP20780B	MAIN P.C.BOARD	1	(RTL)AJ-VF20WP
	VEP20780C	MAIN P.C.BOARD	1	(RTL)AJ-VF20WE
C1	VCS1DQ106	E.CAPACITOR 20V 10M	1	
C2	VCS1AQ226	E.CAPACITOR 10V 22M	1	
C3	ECUM1H103K	C.CAPACITOR CH 50V 0.01U	1	
C4	VCEV1EBL33	E.CAPACITOR CH 25V 330U	1	
C5	VCS1DQ106	E.CAPACITOR 20V 10M	1	
C6	ECUM1C105Z	C.CAPACITOR CH 16V 1U	1	
C7	VCS1DQ106	E.CAPACITOR 20V 10M	1	
C8	ECUM1H391J	C.CAPACITOR CH 50V 390U	1	
C9	VCEA1CBG10	E.CAPACITOR CH 16V 100U	1	
C13	ECUM1H103K	C.CAPACITOR CH 50V 0.01U	1	
C14	VCS1DQ335	E.CAPACITOR 20V 3.3M	1	
C15	VCS1CQ107	E.CAPACITOR 16V 100M	1	
C16	ECUM1H221J	C.CAPACITOR CH 50V 220U	1	
C18	ECUM1H103K	C.CAPACITOR CH 50V 0.01U	1	
C19	ECUM1H470J	C.CAPACITOR CH 50V 47U	1	
C20,21	ECUX1E104K	C.CAPACITOR CH 25V 0.1U	2	
C24	VCF01AP103	P.CAPACITOR 10V 0.01U	1	
C25	VCF01AP562	P.CAPACITOR 10V 5600P	1	
C26	ECUM1H472K	C.CAPACITOR CH 50V 4700	1	
C27	VCS1DQ475	E.CAPACITOR 20V 4.7M	1	
C28	VCK0302	C.CAPACITOR	1	
C29	VCEV1HBH4R	E.CAPACITOR CH 50V 4.7U	1	
C30	VCEA1JBK27	E.CAPACITOR CH 63V 27U	1	
C31	VCS1DQ476	E.CAPACITOR 20V 47M	1	
C32	VCS1DQ106	E.CAPACITOR 20V 10M	1	
C41	ECUM1H104Z	E.CAPACITOR 16V 0.1U	1	AJ-VF20WE
CN1	VJP3440A020	CONNECTOR (MALE)	1	
CN2	VJP1603T	CONNECTOR (MALE)	1	
CN3	VJP1942	CONNECTOR (MALE)	1	
CN4	VJP1603T	CONNECTOR (MALE)	1	
CN5	VJP4292	CONNECTOR (MALE)	1	
CN6	VJP1230T	CONNECTOR (MALE)	1	
CP1-P4	VJR1072	PIN	4	
D1	SC80204	DIODE	1	
D2,D3	DAP202U	DIODE	2	
D4	1SS302	DIODE	1	
D5	DAN202U-T10	DIODE	1	
D6,D7	RLS245	DIODE	2	
D8	DAN202U-T10	DIODE	1	
D9	ESJA57-04A	DIODE	1	
D10	RLS245	DIODE	1	
D13	RLS245	DIODE	1	
E1	VJR1072	PIN	1	
i FBT	VLT0949	FLYBACK TRANSFORMER	1	
HLC	VLQ0889	HORIZON LINEAR COIL	1	
IC	TC74HC164A	IC	1	
IC2	TC74HC08AF	IC	1	
IC3	TC7W04F	IC	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
IC4	M66311FP	IC	1	
IC5	TL1453CNS	IC	1	
IC6	TC4S01F	IC	1	
IC7,C8	TC4W53F	IC	2	
IC9	UPC358G2-E2	IC	1	
IC10,11	TC4S69F	IC	2	
IC12	LM4041E1M3	IC	1	
L1	VLQ0891	COIL	1	
L2	VLQ0890	COIL	1	
L3	VLQ0891	COIL	1	
Q1	2SC4081	TRANSISTOR	1	
Q2	2SJ245S	TRANSISTOR	1	
Q3	2SA1579	TRANSISTOR	1	
Q4	2SB1132T100	TRANSISTOR	1	
Q5-Q8	2SK1254L	TRANSISTOR	4	
Q9-11	2SC4081	TRANSISTOR	3	
Q15	2SC4081	TRANSISTOR	1	
Q20	2SC4081	TRANSISTOR	1	
Q21	2SA1576A	TRANSISTOR	1	
R1	ERJ6GEYG22	M.RESISTOR CH 1/10W 22U	1	
R2	ERJ6GEYF33	M.RESISTOR CH 1/10W 33U	1	
R3	ERJ6GEYG10	M.RESISTOR CH 1/10W 10U	1	
R4	ERJ6GEYG10	M.RESISTOR CH 1/10W 100U	1	
R5	ERJ6GEYG33	M.RESISTOR CH 1/10W 3.3U	1	
R6	ERJ6GEYG33	M.RESISTOR CH 1/10W 330U	1	
R7	ERJ6GEYG10	M.RESISTOR CH 1/10W 1K	1	
R9	ERJ6GEYG33	M.RESISTOR CH 1/10W 3.3U	1	
R11	ERJ6GEYG33	M.RESISTOR CH 1/10W 330U	1	
R17,18	ERJ6GEYG10	M.RESISTOR CH 1/10W 1K	2	
R20,21	ERJ6GEYF47	M.RESISTOR CH 1/10W 4.7U	2	
R22-24	ERJ6GEYG10	M.RESISTOR CH 1/10W 1K	3	
R25-27	ERJ6GEY0R0	M.RESISTOR CH 1/10W 0	3	
R28	ERJ6GEYJ47	M.RESISTOR CH 1/10W 47U	1	
R29	ERJ6GEYG27	M.RESISTOR CH 1/10W 2.7U	1	
R30,31	ERJ6GEYG15	M.RESISTOR CH 1/10W 1.5U	2	
R32	ERJ6GEYG10	M.RESISTOR CH 1/10W 1K	1	
R33-35	ERJ6GEYG10	M.RESISTOR CH 1/10W 100U	3	
R36	ERJ6GEYG10	M.RESISTOR CH 1/10W 10U	1	
R37	ERJ6GEYG10	M.RESISTOR CH 1/10W 1K	1	
R38	ERJ6GEYG36	M.RESISTOR CH 1/10W 3.6U	1	
R39	ERJ6GEYG10	M.RESISTOR CH 1/10W 1K	1	
R40	ERJ6GEYG13	M.RESISTOR CH 1/10W 13U	1	
R41	ERJ6GEYG15	M.RESISTOR CH 1/10W 1.5U	1	
R42	ERJ6GEYG33	M.RESISTOR CH 1/10W 3.3U	1	
R43,44	ERJ6GEYG10	M.RESISTOR CH 1/10W 10U	2	
R45	ERJ6GEYG56	M.RESISTOR CH 1/10W 5.6U	1	
R46	ERJ6GEYG10	M.RESISTOR CH 1/10W 10U	1	
R48	ERJ6GEYF47	M.RESISTOR CH 1/10W 4.7U	1	
R49	ERJ6GEY0R0	M.RESISTOR CH 1/10W 0	1	
R51	ERJ6GEYG10	M.RESISTOR CH 1/10W 100U	1	
R52	ERJ6GEY0R0	M.RESISTOR CH 1/10W 0	1	
R54	ERJ6GEYG22	M.RESISTOR CH 1/10W 22U	1	
R55	ERJ6GEYG18	M.RESISTOR CH 1/10W 18U	1	
R56	ERJ6GEYF33	M.RESISTOR CH 1/10W 33U	1	
R57	ERJ6GEYG18	M.RESISTOR CH 1/10W 18U	1	
R58	ERJ8GEYJ1R	M.RESISTOR CH 1/8W 1.2U	1	
R60	ERJ6GEYG33	M.RESISTOR CH 1/10W 3.3U	1	
R61,62	ERJ6GEYG22	M.RESISTOR CH 1/10W 22U	2	
R63	ERJ6GEYG10	M.RESISTOR CH 1/10W 10U	1	
R65	ERJ6GEYG10	M.RESISTOR CH 1/10W 100U	1	
R66	ERJ6GEYG56	M.RESISTOR CH 1/10W 5.6U	1	
R67	ERJ6GEYF47	M.RESISTOR CH 1/10W 4.7U	1	
R68	ERJ6GEYG10	M.RESISTOR CH 1/10W 10U	1	
R69	ERJ6GEYG10	M.RESISTOR CH 1/10W 1M	1	
R70	ERJ6GEYG10	M.RESISTOR CH 1/10W 1K	1	
R71	ERJ6GEYG10	M.RESISTOR CH 1/10W 100U	1	
R72-74	ERJ6GEYJ33R	M.RESISTOR CH 1/10W 3.3U	3	
R75	ERJ6GEYG10	M.RESISTOR CH 1/10W 100U	1	
R76	ERJ6GEYG22	M.RESISTOR CH 1/10W 22U	1	
R77	ERJ6GEYG68	M.RESISTOR CH 1/10W 68U	1	
R78	ERJ6GEYG10	M.RESISTOR CH 1/10W 100U	1	
R80	ERJ6GEYG10	M.RESISTOR CH 1/10W 1K	1	

AJ-VF20WP/E

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
R81	ERJ6GEYJ5R	M.RESISTOR CH 1/10W 5.6	1	
R101	ERJ6GEY0R0	M.RESISTOR CH 1/10W 0	1	
R104,05	ERJ6GEYG10	M.RESISTOR CH 1/10W 10	2	
R110	VRE0218	M.RESISTOR	1	
R111	ERJ6GEYG10	M.RESISTOR CH 1/10W 100	1	
RV1	VRV0303B102	V.RESISTOR 1K	1	
RV3,V4	VRV0303B502	V.RESISTOR 5K	2	
RV5	VRV0303B103	V.RESISTOR 10K	1	
RV6	VRV0303B502	V.RESISTOR 5K	1	
RV7,V8	VRV0303B101	V.RESISTOR 100	2	
S2	VST0332	TOGGLE SWITCH	1	
S3	VST0333	TOGGLE SWITCH	1	
		MISCELLANEOUS		
	VSC4926	SHIELD CASE	1	
• i E2	VEP20781A	SUB 1 P.C.BOARD	1	(RTL)AJ-VF20WP
	VEP20781C	SUB 1 P.C.BOARD	1	(RTL)AJ-VF20WE
C1	VCS1VQ105	E.CAPACITOR 35V 1M	1	
C2-C4	VCS1DQ106	E.CAPACITOR 20V 10M	3	
C5,C6	ECUX1E104K	C.CAPACITOR CH 25V 0.1U	2	
C7,C8	VCS1DQ106	E.CAPACITOR 20V 10M	2	
C9	VCS1VQ105	E.CAPACITOR 35V 1M	1	
C10	ECUX1H682K	C.CAPACITOR CH 50V 6800	1	
C12	ECHU1C472J	P.CAPACITOR 16V 4700P	1	
C13	ECUM1E223K	C.CAPACITOR CH 25V 0.023	1	
C14,15	ECUX1E104K	C.CAPACITOR CH 25V 0.1U	2	
C16,17	VCS1VQ105	E.CAPACITOR 35V 1M	2	
C19	ECUM1H472K	C.CAPACITOR CH 50V 4700	1	
C20	VCEV1CBJ10	E.CAPACITOR 16V 100U	1	
C21	ECUM1H221J	C.CAPACITOR CH 50V 220	1	
C22	ECUM1H153K	C.CAPACITOR CH 50V 0.015	1	
C23	VCS1DQ335	E.CAPACITOR 20V 3.3M	1	
C24	ECUX1E104K	C.CAPACITOR CH 25V 0.1U	1	
C25	VCS1DQ106	E.CAPACITOR 20V 10M	1	
C26	ECUM1H562K	C.CAPACITOR CH 50V 5600	1	
C27	VCEV1CBL47	E.CAPACITOR 16V 470U	1	
CN21	VJP1614	CONNECTOR (MALE)	1	
CN22	VJP1843	CONNECTOR (MALE)	1	
CP3	VJR1072	TEST POINT	1	
D1	CL-200HRCTU	LED	1	
D2	DAN202U-T10	DIODE	1	
D3	1SS302	DIODE	1	
IC1	HA11423MP	IC	1	
Q1,Q2	2SC4081	TRANSISTOR	2	
Q3	IMZ1	TRANSISTOR-RESISTOR	1	
R1	ERJ6GEYG22	M.RESISTOR CH 1/10W 2.2	1	
R2	ERJ6GEYG47	M.RESISTOR CH 1/10W 470	1	
R3	ERJ6GEYG10	M.RESISTOR CH 1/10W 1K	1	
R4	ERJ6GEYF12	M.RESISTOR CH 1/10W 12	1	
R5	ERJ6GEYG27	M.RESISTOR CH 1/10W 27	1	
R6	ERJ6GEYG10	M.RESISTOR CH 1/10W 10	1	
R7	ERJ6GEYF82	M.RESISTOR CH 1/10W 8.2	1	
R8	ERJ6GEYG10	M.RESISTOR CH 1/10W 100	1	
R9	ERJ6GEYG22	M.RESISTOR CH 1/10W 22	1	
R10	ERJ6GEYF12	M.RESISTOR CH 1/10W 120	1	
R11	ERJ6GEYG10	M.RESISTOR CH 1/10W 10	1	
R12	ERJ6GEYG68	M.RESISTOR CH 1/10W 68	1	
R13	ERJ6GEYF12	M.RESISTOR CH 1/10W 12	1	
R14	ERJ6GEYF82	M.RESISTOR CH 1/10W 8.2	1	
R15	ERJ6GEYF33	M.RESISTOR CH 1/10W 33	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
R16	ERJ6GEY22	M.RESISTOR CH 1/10W 2.2	1	
R17	ERJ6GEYF47	M.RESISTOR CH 1/10W 47	1	
R18	ERJ6GEYJ224	M.RESISTOR CH 1/10W 220	1	
R19	ERJ6GEYG56	M.RESISTOR CH 1/10W 5.6	1	
R20	ERJ6GEYG10	M.RESISTOR CH 1/10W 10	1	
R21	ERJ6GEYG68	M.RESISTOR CH 1/10W 6.8	1	
R22	ERJ6GEYG10	M.RESISTOR CH 1/10W 1K	1	
R23	ERJ6GEYR0	M.RESISTOR CH 1/10W 0	1	
R24	ERJ6GEYJ150	M.RESISTOR CH 1/10W 15	1	
R25	ERJ6GEYG33	M.RESISTOR CH 1/10W 3.3	1	
R26	ERJ6GEYF47	M.RESISTOR CH 1/10W 4.7	1	
R27	ERJ6GEYJ4R	M.RESISTOR CH 1/10W 4.7	1	
R28	ERJ6GEYF33	M.RESISTOR CH 1/10W 33	1	
R29	ERJ6GEYF47	M.RESISTOR CH 1/10W 47	1	
R30	ERJ6GEYG10	M.RESISTOR CH 1/10W 100	1	
R31	ERJ6GEYF56	M.RESISTOR CH 1/10W 560	1	
R32	ERJ6GEYJ47	M.RESISTOR CH 1/10W 470	1	
R33	ERJ6GEYJ100	M.RESISTOR CH 1/10W 10	1	
RV1,V2	EVML1GA00B	V.RESISTOR 5K	2	
RV3,V4	EVML1GA00B	V.RESISTOR 500	2	
		MISCELLANEOUS		
VMP6012		P.C.BOARD STAY	1	
XSB2+4FC		SCREW	2	
• i E3	VEP20782A	SUB 2 P.C.BOARD	1	(RTL)
C1,C2	VCS1DQ106	E.CAPACITOR 20V 10M	2	
C3	VCS1AQ226	E.CAPACITOR 10V 22M	1	
C4	ECUM1H330J	C.CAPACITOR CH 50V 33P	1	
C5	VCS1DQ106	E.CAPACITOR 20V 10M	1	
C6	ECUM1H330J	C.CAPACITOR CH 50V 33P	1	
C7	VCS1DQ475	E.CAPACITOR 20V 4.7M	1	
C8	ECUM1C105Z	C.CAPACITOR CH 16V 1U	1	
C9,10	ECUM1H101J	C.CAPACITOR CH 50V 100	2	
C11	VCS1DQ475	E.CAPACITOR 20V 4.7M	1	
C12	VCS1DQ106	E.CAPACITOR 20V 10M	1	
C13	ECUM1H103K	C.CAPACITOR CH 50V 0.01U	1	
C14,15	ECUM1C105Z	C.CAPACITOR CH 16V 1U	2	
CN31	VJP1943	CONNECTOR (MALE)	1	
D1,D2	CL200HR-CTU	DIODE	2	
D3	1SS302	DIODE	1	
D4	HZK4ALL	DIODE	1	
D5	1SS302	DIODE	1	
D6	HZK9CL	DIODE	1	
DL1	VLD0413	DELAY	1	
IC1	TC4W66F	IC	1	
IC2	UPC358G2-E2	IC	1	
IC3	TC4W53F	IC	1	
L1	VLQ0892	COIL	1	
Q1,Q2	2SC4081	TRANSISTOR	2	
Q3-Q7	2SC417-F14	TRANSISTOR	5	
Q8-10	2SC4102	TRANSISTOR	3	
Q11	2SA1579-T106	TRANSISTOR	1	
Q12	2SK664	TRANSISTOR	1	
R1	ERJ6GEY0R0	M.RESISTOR CH 1/10W 0	1	
R2	ERJ6GEYG10	M.RESISTOR CH 1/10W 10	1	
R3	ERJ6GEYG10	M.RESISTOR CH 1/10W 1K	1	
R4	ERJ6GEYF27	M.RESISTOR CH 1/10W 27	1	
R5	ERJ6GEYF82	M.RESISTOR CH 1/10W 8.2	1	
R6	ERJ6GEYF22	M.RESISTOR CH 1/10W 22	1	
R7	ERJ6GEYF12	M.RESISTOR CH 1/10W 12	1	
R8	ERJ6GEYF10	M.RESISTOR CH 1/10W 100	1	
R9	ERJ6GEYF22	M.RESISTOR CH 1/10W 22	1	
R10	ERJ6GEYF12	M.RESISTOR CH 1/10W 120	1	
R11	ERJ6GEYF10	M.RESISTOR CH 1/10W 10	1	
R12	ERJ6GEYF68	M.RESISTOR CH 1/10W 68	1	
R13	ERJ6GEYF12	M.RESISTOR CH 1/10W 12	1	
R14	ERJ6GEYF82	M.RESISTOR CH 1/10W 8.2	1	
R15	ERJ6GEYF33	M.RESISTOR CH 1/10W 33	1	

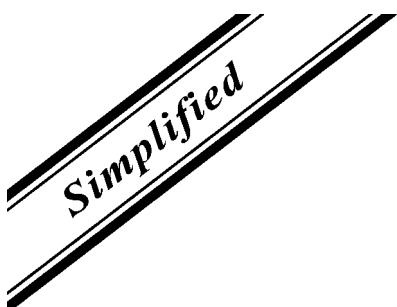
AJ-VF20WP/E

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks	Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
R7	ERJ6GEYG33	M.RESISTOR CH 1/10W 3.3K	1						
R8-10	ERJ6GEYJ55	M.RESISTOR CH 1/10W 550	3						
R11,12	ERJ6GEYG18	M.RESISTOR CH 1/10W 1.8K	2						
R13	ERJ6GEYF39	M.RESISTOR CH 1/10W 39K	1						
R14	ERJ6GEYG22	M.RESISTOR CH 1/10W 22K	1						
R15	ERJ6GEYJ55	M.RESISTOR CH 1/10W 550	1						
R16,17	ERJ6GEYG10	M.RESISTOR CH 1/10W 10K	2						
R18	ERJ6GEYG27	M.RESISTOR CH 1/10W 2.7K	1						
R19	ERJ6GEYG36	M.RESISTOR CH 1/10W 36K	1						
R20	ERJ6GEYJ55	M.RESISTOR CH 1/10W 550	1						
R21	ERJ6GEYG30	M.RESISTOR CH 1/10W 3K	1						
R22	ERJ6GEYG68	M.RESISTOR CH 1/10W 6.8K	1						
R23,24	ERJ6GEYG10	M.RESISTOR CH 1/10W 10K	2						
R25	ERJ6GEYG10	M.RESISTOR CH 1/10W 1K	1						
R26	ERJ6GEYF47	M.RESISTOR CH 1/10W 4.7K	1						
R27	ERJ6GEYF56	M.RESISTOR CH 1/10W 56K	1						
R28	ERJ6GEY0R0	M.RESISTOR CH 1/10W 0	1						
R29	ERJ6GEYF47	M.RESISTOR CH 1/10W 4.7K	1						
R30	ERJ6GEYG10	M.RESISTOR CH 1/10W 10K	1						
R31	ERJ6GEYF82	M.RESISTOR CH 1/10W 8.2K	1						
R32	ERJ6GEYG82	M.RESISTOR CH 1/10W 82K	1						
R33	ERJ6GEYG16	M.RESISTOR CH 1/10W 1.6K	1						
R34	ERJ6GEYG10	M.RESISTOR CH 1/10W 10K	1						
R35	ERJ6GEYF39	M.RESISTOR CH 1/10W 39K	1						
R36	ERJ6GEYG18	M.RESISTOR CH 1/10W 18K	1						
R37	ERJ6GEYG10	M.RESISTOR CH 1/10W 10K	1						
R38	ERJ6GEYG22	M.RESISTOR CH 1/10W 2.2K	1						
R39	ERJ6GEYG56	M.RESISTOR CH 1/10W 56K	1						
R40	ERJ6GEYF39	M.RESISTOR CH 1/10W 39K	1						
R41	ERJ6GEYF33	M.RESISTOR CH 1/10W 33K	1						
R42	ERJ6GEYJ33	M.RESISTOR CH 1/10W 3.3K	1						
R43	ERJ6GEYG56	M.RESISTOR CH 1/10W 56K	1						
R45	ERJ6GEYG10	M.RESISTOR CH 1/10W 1K	1						
R50	ERJ6GEYF47	M.RESISTOR CH 1/10W 4.7K	1						
R51	ERJ6GEYF33	M.RESISTOR CH 1/10W 33K	1						
R52	ERJ6GEYG15	M.RESISTOR CH 1/10W 1.5K	1						
RV1	VRV0305B202	V.RESISTOR 2K	1						
RV2	EVML1GA00B	V.RESISTOR 500	1						
RV3	VRV0305B502	V.RESISTOR 5K	1						
RV4	EVML1GA00B	V.RESISTOR 100K	1						
RV5	VRV0305B103	V.RESISTOR 10K	1						
RV6	EVML1GA00B	V.RESISTOR 500K	1						
• i E4	VEP20783A	LED P.C.BOARD	1	(RTL)					
CN41	VJP1603	CONNECTOR (MALE)	1						
D1	CL-150UR-CD	LED	1						
D2	CL-150D-CDT	LED	1						
D3	CL-150UR-CD	LED	1						
D4,D5	CL-150PG-CD	LED	2						
D6	CL-150D-CDT	LED	1						
D9	CL-150PG-CD	LED	1						
				(RTL)					

AJ-VF20WP

Service Manual

Sec. 5 *Replacement Parts List*

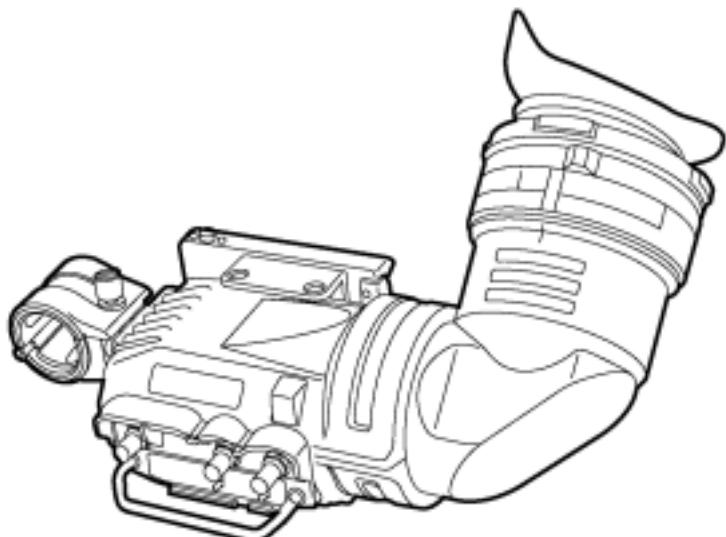


1.5-inch Electronic View Finder

AJ-VF15BP/E

2-inch Electronic View Finder

AJ-VF20WBP/E



Please file and use this manual together with the service manual for Model No.AJ-VF15BP/E, AJ-VF20WBP/E, Order No. VSD9908M905.

Panasonic

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Specifications

Power supply:	DC 12 V (supplied by camera)
Power consumption:	2.1 W (AJ-VF15BP, AJ-VF15BE) 2.7 W (AJ-VF20WBP, AJ-VF20WBE)

Picture tube:

1.5-inch high-resolution monochrome picture tube (AJ-VF15BP, AJ-VF15BE)
2-inch high-resolution monochrome picture tube (AJ-VF20WBP, AJ-VF20WBE)

Horizontal resolution:

600 lines (center, typical, 4 : 3 mode)

Image system:

525 lines, 60 fields (AJ-VF15BP, AJ-VF20WBP)
625 lines, 50 fields (AJ-VF15BE, AJ-VF20WBE)

External adjustment controls:

Controls (BRIGHT, CONTRAST, PEAKING)
Switches (TALLY HIGH/OFF/LOW, ZEBRA ON/OFF)

Allowable temperature range:

32F to 104F (0C to 40C)

Allowable humidity range:

85% or less (no condensation)

External dimensions (W H D):

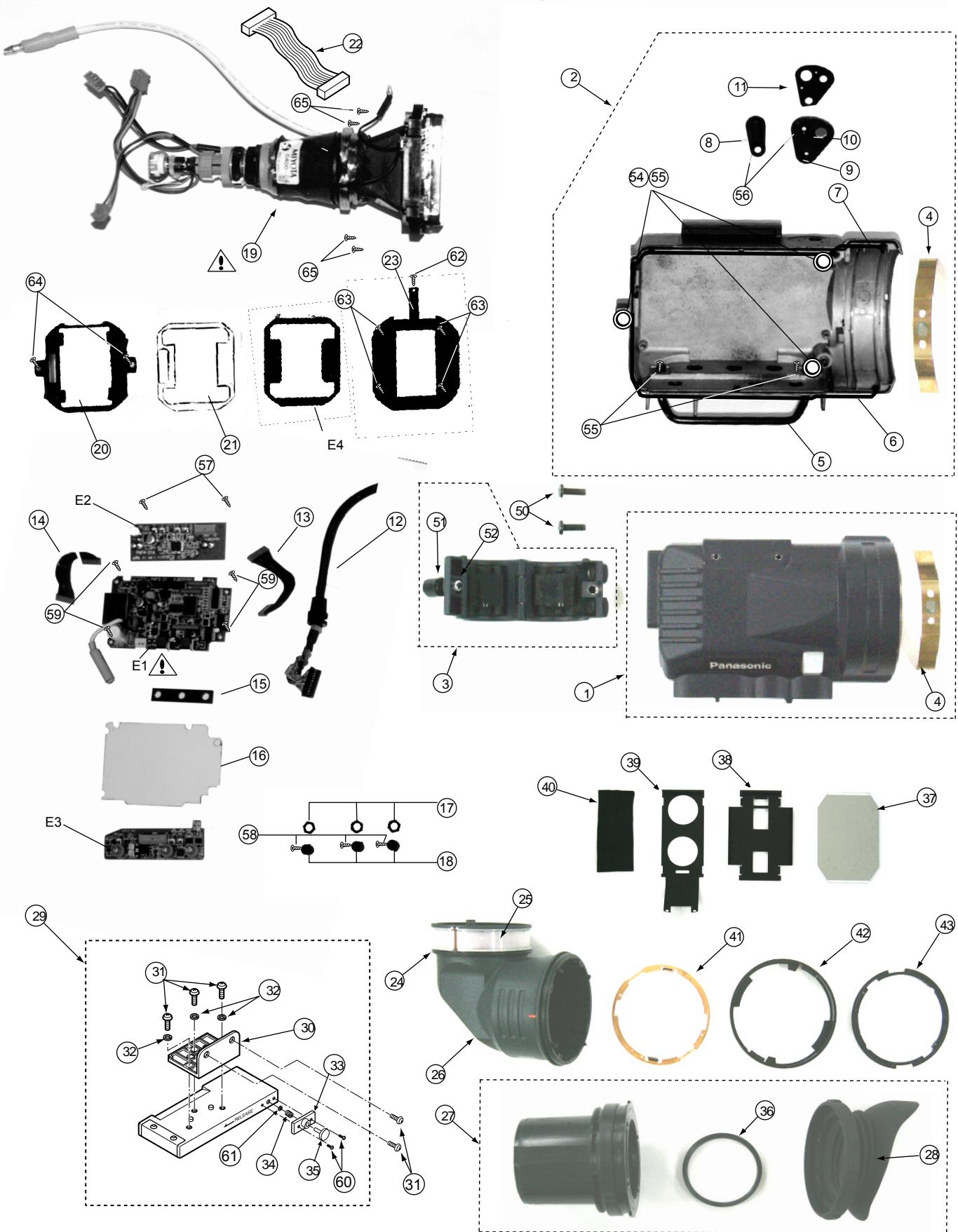
9 1/2 3 3/16 8 1/8 inches (240 80 206 mm)

Weight:

1.606 lb (730 g) (AJ-VF15BP, AJ-VF15BE)
1.639 lb (745 g) (AJ-VF20WBP, AJ-VF20WBE)

MECHANICAL PARTS ASSEMBLY

Components identified with the mark  have the special characteristics for safety. When replacing any of these components, use only the same type.



MECHANICAL PARTS ASSEMBLY

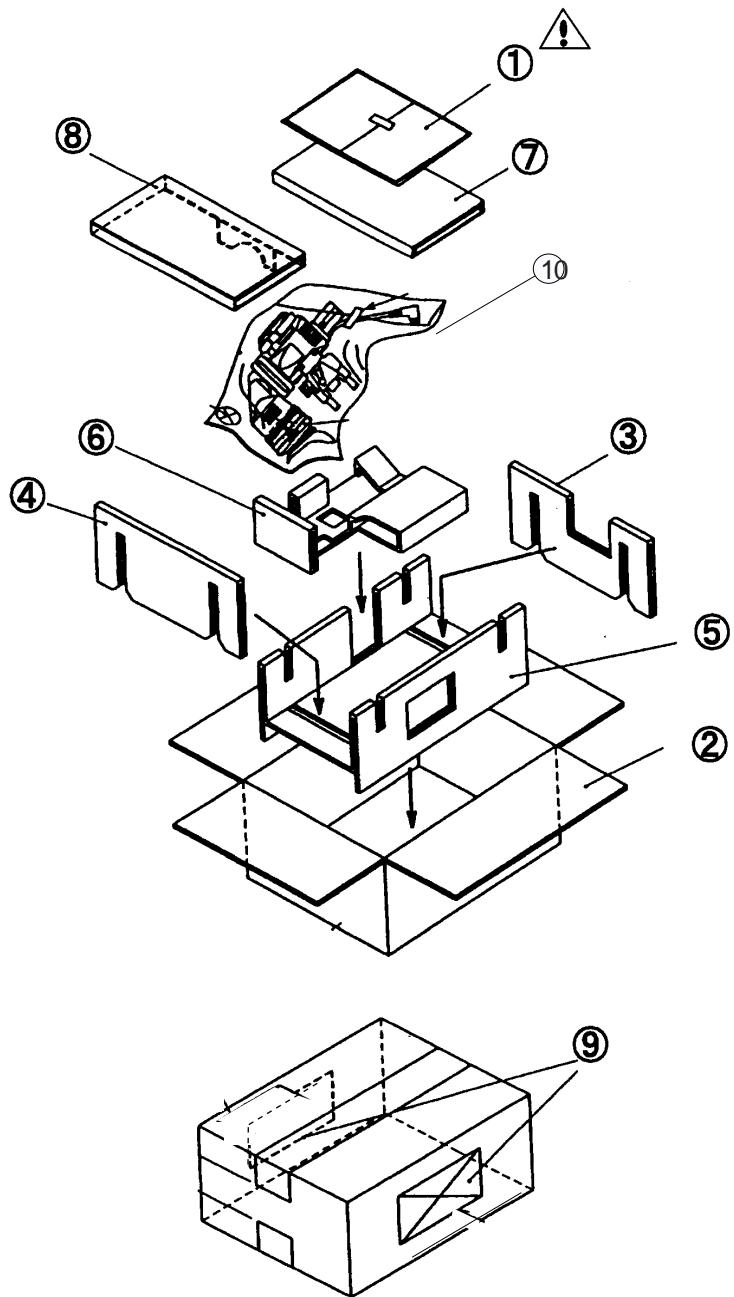
Components identified with the mark  have the special characteristics for safety.
When replacing any of these components, use only the same type.

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
1	WYK9294	TOP CASE ASS'Y	1	
2	WYK9295	BOTTOM CASE ASS'Y	1	
3	WY0884	MIC HOLDER ASS'Y	1	
4	WMC1513	PLATE SPRING (A)	1	
5	VKH389	GUARD BAR	1	
6	WNG1217	CASE PACKING (1)	1	
7	WNG1218	CASE PACKING (2)	1	
8	VGL8170	TALLY KNOB	1	
9	VGQ5321	TALLY BASE	1	
10	VGL0837	BACK TALLY COVER	1	
11	WNG1219	BACK TALLY SHEET	1	
12	VEC0969	VF CABLE	1	
13	VEE0J46	13P CABLE	1	
14	VEE0J45	10P CABLE	1	
15	WNG1225	SIV PACKING	1	
16	WNG2914	INSULATOR	1	
17	VHD1264	VR NUT	3	
18	VGL8171	VR KNOB	3	
19	VEK8805	CRT/DY CONNECTOR ASS'Y	1	FOR AJ-VF15BP
19	VEK8998	CRT/DY CONNECTOR ASS'Y	1	FOR AJ-VF15BE
19	VEK8804	CRT/DY CONNECTOR ASS'Y	1	FOR AJ-VF20B/P
19	VEK9001	CRT/DY CONNECTOR ASS'Y	1	FOR AJ-VF20B/E
20	VGH4342	DISPLAY PLATE	1	
21	WNG2915	MASK SHEET	1	
22	VEE0J44	10P CABLE	1	CN4(MAIN) - CN41(LED)
23	WNG2921	MASK SPACER	1	FOR AJ-VF15BP/E
23	WNG2890	MASK SPACER	1	FOR AJ-VF20B/P/E
24	WNG1221	LENS LOCK PACKING	1	
25	WNG3242	SLIP RING	1	
26	VGP5040	CUT SIDE HOLDER	1	
27	WY0809	LENS CASE	1	FOR AJ-VF15BP/E
27	WY0810	LENS CASE	1	FOR AJ-VF20B/P/E
28	WNG1423-S	EYE CAP	1	
29	VFC3995	VF RAIL ASS'Y	1	
30	VGM1655	LOCK TABLE	1	
31	XSB3+8VZ	SCREW	5	
32	XWA3BFZ	WASHER	3	
33	WMP7716	STOPPER BASE	1	
34	WMB3791	STOPPER SPRING	1	
35	WMB7411	STOPPER PIN	1	
36	VDL0965	UV FILTER	1	
37	VDL0963	VF MIRROR	1	
38	WMP6010	MIRROR GUIDE	1	
39	WMP6011	MIRROR PLATE	1	
40	WNG1449	MIRROR CUSHION	1	
41	WMC1514	LOCK SPRING	1	
42	VQI1522	LOCK RING	1	
43	WNG2887	LOCK SPACER	1	
50	XSB4+12FXKS	SCREW	2	
51	VHD1528	SCREW	1	
52	XNG/35D8G	WASHER	1	
54	WNG2885	SCREW/WASHER	3	
55	XVE26+A8FZ	SCREW	5	
56	MH-04J8	SCREW	2	
57	XQN2+A4FN	SCREW	2	
58	XXEV2A8FP	HEX SCREW	3	
59	XSB2+4FC	SCREW	4	
60	XQN2+A3FZ	SCREW	2	
61	XUC15FP	E-RING	1	
62	XTN2+6CRN	SCREW	1	
63	MH4-97	SCREW	4	
64	XTN26+8CFZ	SCREW	2	
65	MH4-92	SCREW	4	
E1	VEP20780B	MAIN P.C.BOARD	1	FOR AJ-VF15BP
E1	VEP20780D	MAIN P.C.BOARD	1	FOR AJ-VF15BE
E1	VEP20780A	MAIN P.C.BOARD	1	FOR AJ-VF20B/P
E1	VEP20780C	MAIN P.C.BOARD	1	FOR AJ-VF20B/E
E2	VEP20781B	SUB 1 P.C.BOARD	1	FOR AJ-VF15BP

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
E2	VEP20781D	SUB 1 P.C.BOARD	1	FOR AJ-VF15BE
E2	VEP20781A	SUB 1 P.C.BOARD	1	FOR AJ-VF20B/P
E2	VEP20781C	SUB 1 P.C.BOARD	1	FOR AJ-VF20B/E
E3	VEP20782B	SUB 2 P.C.BOARD	1	FOR AJ-VF15BP/E
E3	VEP20782A	SUB 2 P.C.BOARD	1	FOR AJ-VF20B/P/E
E4	VEP20783	LED P.C.BOARD	1	

PACKING PARTS ASSEMBLY

Components identified with the mark  have the special characteristics for safety. When replacing any of these components, use only the same type.



PACKING PARTS ASSEMBLY

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
 1	VQT0L51	OPERATING INSTRUCTION	1	
2	VPG0A71	PACKING CASE	1	
3	VPN5247	CUSHION A	1	
4	VPN5248	CUSHION B	1	
5	VPN5249	CUSHION C	1	
6	KH4A-10	CUSHION D	1	
7	VPN5251	CUSHION E	1	
8	VPN5252	CUSHION F	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
9	VQL9822	PACKING LABEL	2	FOR_AJVF15BP/E
9	VQL0A24	PACKING LABEL	2	FOR_AJVF20WBP/E
10	KH82-05	PROTECT BAG	1	

ELECTRICAL REPLACEMENT PARTS LIST

AJ-VF15BP

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks	Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
■ E1	VEP20780B	MAIN P.C.BORAD	1	(RTL)	IC2	TC74HC08AF	IC	1	COJBAA000084
■ E2	VEP20781B	SUB 1 P.C.BORAD	1	(RTL)	IC3	COJBAA000180	IC	1	
■ E3	VEP20782B	SUB 2 P.C.BORAD	1	(RTL)	IC4	M66311FP	IC	1	COHBZ000021
■ E4	VEP20783	LED P.C.BORAD	1	(RTL)	IC5	TL1453CNS	IC	1	
					IC6	TC4S01F	IC	1	
					IC7	TC4W53F	IC	1	COJBAA000225
					IC9	UPC358Q2	IC	1	
					IC10	TC4S69F	IC	1	COJBAB000139
					IC12	LM4041EIM312	DIODE	1	
					L1	VLQ0891	COIL	1	
					L3	VLQ0891	COIL	1	
					Q1	2SC4081	TRANSISTOR	1	
					Q2	2SJ245S	TRANSISTOR	1	
					Q3	2SA1579	TRANSISTOR	1	
					Q4	2SB1132	TRANSISTOR	1	
					Q5, Q6	2SK1254	TRANSISTOR	2	
					Q9-12	2SC4081	TRANSISTOR	4	
					Q20	2SC4081	TRANSISTOR	1	
					Q21	2SA1576A	TRANSISTOR	1	
					R1	ERJ6GEYG223	M.RESISTOR CH 1/10W 22K	1	
					R2	ERJ6GEYG333	M.RESISTOR CH 1/10W 33K	1	
					R3	ERJ6GEYG103	M.RESISTOR CH 1/10W 10K	1	
					R4	ERJ6GEYG104	M.RESISTOR CH 1/10W 100K	1	
					R5	ERJ6GEYG322	M.RESISTOR CH 1/10W 3.3K	1	
					R6	ERJ6GEYG331	M.RESISTOR CH 1/10W 330	1	
					R7	ERJ6GEYG102	M.RESISTOR CH 1/10W 1K	1	
					R9	ERJ6GEYG332	M.RESISTOR CH 1/10W 3.3K	1	
					R11	ERJ6GEYG331	M.RESISTOR CH 1/10W 330	1	
					R17, 18	ERJ6GEYG102	M.RESISTOR CH 1/10W 1K	2	
					R20, 21	ERJ6GEYF472	M.RESISTOR CH 1/10W 4.7K	2	
					R22-24	ERJ6GEYG102	M.RESISTOR CH 1/10W 1K	3	
					R25-27	ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	3	
					R28	ERJ6GEYG471	M.RESISTOR CH 1/10W 470	1	
					R29	ERJ6GEYG272	M.RESISTOR CH 1/10W 2.7K	1	
					R30, 31	ERJ6GEYG152	M.RESISTOR CH 1/10W 1.5K	2	
					R32	ERJ6GEYG102	M.RESISTOR CH 1/10W 1K	1	
					R33-35	ERJ6GEYG104	M.RESISTOR CH 1/10W 100K	3	
					R36	ERJ6GEYG103	M.RESISTOR CH 1/10W 10K	1	
					R37	ERJ6GEYG102	M.RESISTOR CH 1/10W 1K	1	
					R38	ERJ6GEYG362	M.RESISTOR CH 1/10W 3.6K	1	
					R39	ERJ6GEYG102	M.RESISTOR CH 1/10W 1K	1	
					R40	ERJ6GEYG133	M.RESISTOR CH 1/10W 13K	1	
					R41	ERJ6GEYG152	M.RESISTOR CH 1/10W 1.5K	1	
					R42	ERJ6GEYG332	M.RESISTOR CH 1/10W 3.3K	1	
					R43, 44	ERJ6GEYG103	M.RESISTOR CH 1/10W 10K	2	
					R45	ERJ6GEYG562	M.RESISTOR CH 1/10W 5.6K	1	
					R46	ERJ6GEYG103	M.RESISTOR CH 1/10W 10K	1	
					R48	ERJ6GEYF472	M.RESISTOR CH 1/10W 4.7K	1	
					R50	ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	1	
					R51	ERJ6GEYG104	M.RESISTOR CH 1/10W 100K	1	
					R52	ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	1	
					R54	ERJ6GEYG223	M.RESISTOR CH 1/10W 22K	1	
					R55	ERJ6GEYG183	M.RESISTOR CH 1/10W 18K	1	
					R58	ERJ8GEYJ2R2	M.RESISTOR CH 1/8W 2.2	1	
					R59	ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	1	
					R60	ERJ6GEYG322	M.RESISTOR CH 1/10W 3.3K	1	
					R61, 62	ERJ6GEYG223	M.RESISTOR CH 1/10W 22K	2	
					R63	ERJ6GEYG103	M.RESISTOR CH 1/10W 10K	1	
					R65	ERJ6GEYG104	M.RESISTOR CH 1/10W 100K	1	
					R66	ERJ6GEYG562	M.RESISTOR CH 1/10W 5.6K	1	
					R67	ERJ6GEYF472	M.RESISTOR CH 1/10W 4.7K	1	
					R68	ERJ6GEYG103	M.RESISTOR CH 1/10W 10K	1	
					R69	ERJ6GEYG104	M.RESISTOR CH 1/10W 100K	1	
					R70	ERJ6GEYG102	M.RESISTOR CH 1/10W 1K	1	
					R71	ERJ6GEYG101	M.RESISTOR CH 1/10W 100	1	
					R72-74	ERJ6GEYJ335	M.RESISTOR CH 1/10W 3.3M	3	
					R75	ERJ6GEYF472	M.RESISTOR CH 1/10W 100K	1	
					R76	ERJ6GEYG221	M.RESISTOR CH 1/10W 220	1	
					R77	ERJ6GEYG680	M.RESISTOR CH 1/10W 68	1	
					R78	ERJ6GEYG101	M.RESISTOR CH 1/10W 100	1	
					R80	ERJ6GEYG332	M.RESISTOR CH 1/10W 3.3K	1	
					R81	ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks	Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
R101	ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	1		R13	ERJ6GEYF123	M.RESISTOR CH 1/10W 12K	1	
R104,05	ERJ6GEY103	M.RESISTOR CH 1/10W 10K	2		R14	ERJ6GEYF822	M.RESISTOR CH 1/10W 8.2K	1	
R110	WAZC-58-800	CHIP PROTECTOR	1		R15	ERJ6GEYF333	M.RESISTOR CH 1/10W 33K	1	
R111	ERJ6GEYG101	M.RESISTOR CH 1/10W 100	1		R16	ERJ6GEYG222	M.RESISTOR CH 1/10W 2.2K	1	
R113	RDRNU5331F2E	M.RESISTOR CH 1/4W 330	1		R17	ERJ6GEYF473	M.RESISTOR CH 1/10W 47K	1	
					R18	ERJ6GEYG224	M.RESISTOR CH 1/10W 220K	1	
RV1	VRV0303B102	V.RESISTOR 1K	1		R19	ERJ6GEY562	M.RESISTOR CH 1/10W 5.6K	1	
RV3	VRV0303B502	V.RESISTOR 5K	1		R20	ERJ6GEY103	M.RESISTOR CH 1/10W 10K	1	
RV5	VRV0303B103	V.RESISTOR 10K	1		R21	ERJ6GEYG682	M.RESISTOR CH 1/10W 6.8K	1	
RV6	VRV0303B502	V.RESISTOR 5K	1		R22	ERJ6GEYG302	M.RESISTOR CH 1/10W 3K	1	
RV7	VRV0303B101	V.RESISTOR 100	1		R23	ERJ6GEYY103	M.RESISTOR CH 1/10W 10K	1	
					R24	ERJ6GEYJ150	M.RESISTOR CH 1/10W 15	1	
S2	VST0332	SWITCH	1		R25	ERJ6GEYG332	M.RESISTOR CH 1/10W 3.3K	1	
S3	VST0333	SWITCH	1		R26	ERJ6GEYF472	M.RESISTOR CH 1/10W 4.7K	1	
		MISCELLANEOUS			R27	ERJ6GEYJ4R7	M.RESISTOR CH 1/10W 4.7K	1	
					R28	ERJ6GEYF333	M.RESISTOR CH 1/10W 33K	1	
					R29	ERJ6GEYF473	M.RESISTOR CH 1/10W 47K	1	
					R30	ERJ6GEYJ104	M.RESISTOR CH 1/10W 100K	1	
					R31	ERJ6GEYF561	M.RESISTOR CH 1/10W 560	1	
					R32	ERJ6GEYG471	M.RESISTOR CH 1/10W 470	1	
					R33	ERJ6GEYJ100	M.RESISTOR CH 1/10W 10	1	
					R34	ERJ6GEY471	M.RESISTOR CH 1/10W 470	1	
					R35	ERJ6GEYF473	M.RESISTOR CH 1/10W 47K	1	
					R36	ERJ6GEYF333	M.RESISTOR CH 1/10W 33K	1	
					RV1, V2	EVML1GA00B53	V.RESISTOR 5K	2	
					RV3-V5	EVML1GA00B52	V.RESISTOR 500	3	
							MISCELLANEOUS		
						VMP6012	P.C.BOARD STAY	1	
						XSB2+4FC	SCREW	2	
■ E2	VEP20781B	SUB 2 P.C.BOARD	1 (RTL)		■ E3	VEP20782B	SUB 2 P.C.BOARD	1 (RTL)	
C1	VCS1VQ105	T.CAPACITOR CH 35V 1U	1		C1,C2	VCS1DQ106	T.CAPACITOR CH 20V 10U	2	
C2-C4	VCS1DQ106	T.CAPACITOR CH 20V 10U	3		C3	VCS1AQ226	T.CAPACITOR CH 10V 22U	1	
C5,C6	ECUX1E104KBN	C.CAPACITOR CH 25V 0.1U	2		C4	ECUM1H330JCN	C.CAPACITOR CH 50V 33P	1	
C7,C8	VCS1DQ106	T.CAPACITOR CH 20V 10U	2		C5	VCS1DQ106	T.CAPACITOR CH 20V 10U	1	
C9	VCS1VQ105	T.CAPACITOR CH 35V 1U	1		C6	ECUM1H330JCN	C.CAPACITOR CH 50V 33P	1	
C10	ECUX1H682KBN	C.CAPACITOR CH 50V 6800P	1		C7	VCS1DQ475	T.CAPACITOR CH 20V 4.7U	1	
C12	ECHU1C472J5	P.CAPACITOR 16V 4700P	1		C8	ECJ2VF1C105Z	C.CAPACITOR CH 16V 1U	1	
C13	ECUM1E223KBN	C.CAPACITOR CH 25V 0.023U	1		C9,10	ECUM1H101JCN	C.CAPACITOR CH 50V 100P	2	
C14,15	ECUX1E104KBN	C.CAPACITOR CH 25V 0.1U	2		C11	VCS1DQ475	T.CAPACITOR CH 20V 4.7U	1	
C16,17	VCS1VQ105	T.CAPACITOR CH 35V 1U	2		C12	VCS1DQ106	T.CAPACITOR CH 20V 10U	1	
C18	WBC01101J1H	C.CAPACITOR CH 50V 100P	1		C13	ECJ2VB1H103K	C.CAPACITOR CH 50V 0.01U	1	
C19	ECUM1H472KBN	C.CAPACITOR CH 50V 4700P	1		C14,15	ECJ2VF1C105Z	C.CAPACITOR CH 16V 1U	2	
C20	VCEV1C1B101	E.CAPACITOR 16V 100U	1		CN31	VJP1943	CONNECTOR (MALE)	1	
C21	ECJ2V1C1H221J	C.CAPACITOR CH 50V 220P	1		D1,D2	CL200HR-CTUL	DIODE	2	
C22	ECUM1H153KBN	C.CAPACITOR CH 50V 0.015U	1		D3	ISS302	DIODE	1	
C23	VCS1DQ335	T.CAPACITOR CH 20V 3.3U	1		D4	HZK4ALLTR	DIODE	1	
C24	ECUX1E104KBN	C.CAPACITOR CH 25V 0.1U	1		D5	ISS302	DIODE	1	
C25	VCS1DQ106	T.CAPACITOR CH 20V 10U	1		D6	HZK9CLTR	DIODE	1	
C26	ECJ2VB1H562K	C.CAPACITOR CH 50V 5600P	1		DL1	VLD0413	DELAY	1	
C27	VCEV1CBL471	E.CAPACITOR 16V 470U	1		IC1	TC4W66F	IC	1 COJBAS000055	
C28	ECUX1E104KBN	C.CAPACITOR CH 25V 0.1U	1		IC2	UPC358G2	IC	1	
					IC3	TC4W53F	IC	1 COJBAR000225	
CN21	VJP1614	CONNECTOR (MALE)	1		L1	VLQ0892	COIL	1	
CN22	VJP1843	CONNECTOR (MALE)	1		Q1,Q2	2SC4081	TRANSISTOR	2	
CP3	VJR1072	TEST POINT	1		Q3-Q7	2SC4178	TRANSISTOR	5	
D1	CL200HR-CTUL	DIODE	1		Q8-10	2SC4102	TRANSISTOR	3	
D2	DAH202U	DIODE	1		Q11	2SA1579	TRANSISTOR	1	
D3	ISS302	DIODE	1		R1	ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	1	
IC1	HA11423MP	IC	1		R2	ERJ6GEY103	M.RESISTOR CH 1/10W 10K	1	
Q1, Q2	2SC4081	TRANSISTOR	2		R3	ERJ6GEY102	M.RESISTOR CH 1/10W 1K	1	
Q3	IM21	TRANSISTOR-RESISTOR	1		R4	ERJ6GEYG273	M.RESISTOR CH 1/10W 27K	1	
Q4	2SK664	TRANSISTOR	1						
R1	ERJ6GEYG222	M.RESISTOR CH 1/10W 2.2K	1						
R2	ERJ6GEY474	M.RESISTOR CH 1/10W 470K	1						
R3	ERJ6GEY102	M.RESISTOR CH 1/10W 1K	1						
R4	ERJ6GEYF123	M.RESISTOR CH 1/10W 12K	1						
R5	ERJ6GEYG273	M.RESISTOR CH 1/10W 27K	1						
R6	ERJ6GEYG103	M.RESISTOR CH 1/10W 10K	1						
R7	ERJ6GEYF822	M.RESISTOR CH 1/10W 8.2K	1						
R8	ERJ6GEY101	M.RESISTOR CH 1/10W 100	1						
R9	ERJ6GEYG223	M.RESISTOR CH 1/10W 22K	1						
R10	ERJ6GEYG121	M.RESISTOR CH 1/10W 120	1						
R11	ERJ6GEYG103	M.RESISTOR CH 1/10W 10K	1						
R12	ERJ6GEYG683	M.RESISTOR CH 1/10W 68K	1						

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
R5	ERJ6GEYG223	M.RESISTOR CH 1/10W 22K	1	
R6	ERJ6GEYG101	M.RESISTOR CH 1/10W 100	1	
R7	ERJ6GEYG322	M.RESISTOR CH 1/10W 3.3K	1	
R8-10	ERJ6GEYG511	M.RESISTOR CH 1/10W 510	3	
R11,12	ERJ6GEYG182	M.RESISTOR CH 1/10W 1.8K	2	
R13	ERJ6GEYF393	M.RESISTOR CH 1/10W 39K	1	
R14	ERJ6GEYG223	M.RESISTOR CH 1/10W 22K	1	
R15	ERJ6GEYG511	M.RESISTOR CH 1/10W 510	1	
R16,17	ERJ6GEYG101	M.RESISTOR CH 1/10W 100	2	
R18	ERJ6GEYG272	M.RESISTOR CH 1/10W 2.7K	1	
R19	ERJ6GEYG361	M.RESISTOR CH 1/10W 360	1	
R20	ERJ6GEYG511	M.RESISTOR CH 1/10W 510	1	
R21	ERJ6GEYG302	M.RESISTOR CH 1/10W 3K	1	
R22	ERJ6GEYG682	M.RESISTOR CH 1/10W 6.8K	1	
R23,24	ERJ6GEYG103	M.RESISTOR CH 1/10W 10K	2	
R25	ERJ6GEYG102	M.RESISTOR CH 1/10W 1K	1	
R26	ERJ6GEYF472	M.RESISTOR CH 1/10W 4.7K	1	
R27	ERJ6GEYF561	M.RESISTOR CH 1/10W 560	1	
R28	ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	1	
R29	ERJ6GEYF472	M.RESISTOR CH 1/10W 4.7K	1	
R30	ERJ6GEYG101	M.RESISTOR CH 1/10W 100	1	
R31	ERJ6GEYF822	M.RESISTOR CH 1/10W 8.2K	1	
R32	ERJ6GEYG821	M.RESISTOR CH 1/10W 820	1	
R33	ERJ6GEYG162	M.RESISTOR CH 1/10W 1.6K	1	
R34	ERJ6GEYG103	M.RESISTOR CH 1/10W 10K	1	
R35	ERJ6GEYF393	M.RESISTOR CH 1/10W 39K	1	
R36	ERJ6GEYG183	M.RESISTOR CH 1/10W 18K	1	
R37	ERJ6GEYG103	M.RESISTOR CH 1/10W 10K	1	
R38	ERJ6GEYG222	M.RESISTOR CH 1/10W 2.2K	1	
R39	ERJ6GEYG563	M.RESISTOR CH 1/10W 56K	1	
R40	ERJ6GEYF393	M.RESISTOR CH 1/10W 39K	1	
R41	ERJ6GEYF333	M.RESISTOR CH 1/10W 33K	1	
R42	ERJ6GEYI335	M.RESISTOR CH 1/10W 3.3M	1	
R43	ERJ6GEYG563	M.RESISTOR CH 1/10W 56K	1	
R44	RDRN05103F2E	M.RESISTOR CH 1/4W 0.01U	1	
R45	ERJ6GEYG102	M.RESISTOR CH 1/10W 1K	1	
R52	ERJ6GEYG152	M.RESISTOR CH 1/10W 1.5K	1	
RV1	VRV0305B202	V.RESISTOR	2K	1
RV2	EVML1GA00B52	V.RESISTOR	500	1
RV3	VRV0305B502	V.RESISTOR	5K	1
RV4	EVML1GA00B15	V.RESISTOR	100K	1
RV5	VRV0305B103	V.RESISTOR	10K	1
■ E4	VEP20783	LED P.C.BOARD	1	(RTL)
CN41	VJP1603T	CONNECTOR (MALE)	1	K1KA10A00138
D1	CL-150UR-CD	LED	1	
D2	CL-150D-CD	LED	1	
D3	CL-150UR-CD	LED	1	
D4,D5	DATQ11150PG	LED	2	
D6	CL-150D-CD	LED	1	
D9	DATQ11150PG	LED	1	

ELECTRICAL REPLACEMENT PARTS LIST

AJ-VF15BE

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks	Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
■ E1	VEP20780D	MAIN P.C.BORD	1	(RTL)	IC2	TC74HC08AF	IC	1	COJBAA000084
■ E2	VEP20781D	SUB 1 P.C.BORD	1	(RTL)	IC3	COJBAA000180	IC	1	
■ E3	VEP20782B	SUB 2 P.C.BORD	1	(RTL)	IC4	M66311FP	IC	1	COHBZ000021
■ E4	VEP20783	LED P.C.BORD	1	(RTL)	IC5	TL1453CNS	IC	1	
■ E1	VEP20780D	MAIN P.C.BORD	1	(RTL)	IC6	TC4S01F	IC	1	
C1	VCS1DQ106	T.CAPACITOR CH 20V 10U	1		IC7	TC4W53F	IC	1	COJBAA000225
C2	VCS1AQ226	T.CAPACITOR CH 10V 22U	1		IC9	UPC358Q2	IC	1	
C3	ECJ2VB1H103K	C.CAPACITOR CH 50V 0.01U	1		IC10	TC4S69F	IC	1	COJBAB000139
C4	VCEV1EBL331	E.CAPACITOR 25V 330U	1		IC12	LM4041EIM312	DIODE	1	
C5	VCS1DQ106	T.CAPACITOR CH 20V 10U	1		L1	VLQ0891	COIL	1	
C6	ECJ2VF1C105Z	C.CAPACITOR CH 16V 1U	1		L3	VLQ0891	COIL	1	
C7	VCS1DQ106	T.CAPACITOR CH 20V 10U	1		Q1	2SC4081	TRANSISTOR	1	
C8	ECUMH191JCN	C.CAPACITOR CH 50V 390P	1		Q2	2SJ245S	TRANSISTOR	1	
C9	VCEA1CBG101	E.CAPACITOR 16V 100U	1		Q3	2SA1579	TRANSISTOR	1	
C13	ECJ2VB1H103K	C.CAPACITOR CH 50V 0.01U	1		Q4	2SB1132	TRANSISTOR	1	
C14	VCS1DQ335	T.CAPACITOR CH 20V 3.3U	1		Q5,Q6	2SK1254	TRANSISTOR	2	
C15	VCS1CQ107	T.CAPACITOR CH 16V 100U	1		Q9-12	2SC4081	TRANSISTOR	4	
C16	ECJ2VC1H221J	C.CAPACITOR CH 50V 220P	1		Q20	2SC4081	TRANSISTOR	1	
C18	ECJ2VB1H103K	C.CAPACITOR CH 50V 0.01U	1		Q21	2SA1576A	TRANSISTOR	1	
C19	ECUMH1470JCN	C.CAPACITOR CH 50V 47P	1		R1	ERJ6GEYG223	M.RESISTOR CH 1/10W 22K	1	
C20	ECUX1E104KBN	C.CAPACITOR CH 25V 0.1U	1		R2	ERJ6GEYF333	M.RESISTOR CH 1/10W 33K	1	
C21	ECUMH1473KBN	C.CAPACITOR CH 50V 0.047U	1		R3	ERJ6GEYG103	M.RESISTOR CH 1/10W 10K	1	
C24	VCF01AP822	P.CAPACITOR 100V 8200P	1		R4	ERJ6GEYG104	M.RESISTOR CH 1/10W 100K	1	
C26	ECUMH1472KBN	C.CAPACITOR CH 50V 4700P	1		R5	ERJ6GEYG332	M.RESISTOR CH 1/10W 3.3K	1	
C27	VCS1DQ475	T.CAPACITOR CH 20V 4.7U	1		R6	ERJ6GEYG331	M.RESISTOR CH 1/10W 330	1	
C28	VCK0302	C.CAPACITOR 1000V 470P	1		R7	ERJ6GEYG102	M.RESISTOR CH 1/10W 1K	1	
C29	VCEV1HBH4R7	E.CAPACITOR 50V 4.7U	1		R9	ERJ6GEYG332	M.RESISTOR CH 1/10W 3.3K	1	
C30	VCEA1JBK270	E.CAPACITOR 63V 27U	1		R11	ERJ6GEYG331	M.RESISTOR CH 1/10W 330	1	
C32	VCS1DQ106	T.CAPACITOR CH 20V 10U	1		R17,18	ERJ6GEYG102	M.RESISTOR CH 1/10W 1K	2	
C40	VCF01AP102	P.CAPACITOR 100V 1200P	1		R20,21	ERJ6GEYF472	M.RESISTOR CH 1/10W 4.7K	2	
C41	ECUMH1104ZFM	C.CAPACITOR CH 50V 0.1U	1		R22-24	ERJ6GEYG102	M.RESISTOR CH 1/10W 1K	3	
C42	ECJ2VB1H562K	C.CAPACITOR CH 50V 5600P	1		R25-27	ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	3	
CN1	VJP3440A020	CONNECTOR (MALE)	1	K1KA20A00187	R28	ERJ6GEYG471	M.RESISTOR CH 1/10W 470	1	
CN2	VJP1603T	CONNECTOR (MALE)	1	K1KA10A00138	R29	ERJ6GEYG272	M.RESISTOR CH 1/10W 2.7K	1	
CN3	VJP1942	CONNECTOR (MALE)	1		R30,31	ERJ6GEYG152	M.RESISTOR CH 1/10W 1.5K	2	
CN4	VJP1603T	CONNECTOR (MALE)	1	K1KA10A00138	R32	ERJ6GEYG102	M.RESISTOR CH 1/10W 1K	1	
CN5	VJP4292	CONNECTOR (MALE)	1		R33-35	ERJ6GEYG104	M.RESISTOR CH 1/10W 100K	3	
CN6	VJP1230T	CONNECTOR (MALE)	3P	K1KA03A00017	R36	ERJ6GEYG103	M.RESISTOR CH 1/10W 10K	1	
CP1-P4	VJR1072	TEST POINT	4		R37	ERJ6GEYG102	M.RESISTOR CH 1/10W 1K	1	
D1	SC80204TE12R	DIODE	1		R38	ERJ6GEYG362	M.RESISTOR CH 1/10W 3.6K	1	
D2,D3	DAP202U	DIODE	2		R39	ERJ6GEYG102	M.RESISTOR CH 1/10W 1K	1	
D4	1SS302	DIODE	1		R40	ERJ6GEYG133	M.RESISTOR CH 1/10W 13K	1	
D5	DAN202U	DIODE	1		R41	ERJ6GEYG152	M.RESISTOR CH 1/10W 1.5K	1	
D6,D7	RLS245	DIODE	2		R42	ERJ6GEYG332	M.RESISTOR CH 1/10W 3.3K	1	
D8	DAN202U	DIODE	1		R43,44	ERJ6GEYG103	M.RESISTOR CH 1/10W 10K	2	
D9	ESJA57-04A	DIODE	1		R45	ERJ6GEYG562	M.RESISTOR CH 1/10W 5.6K	1	
D10	RLS245	DIODE	1		R46	ERJ6GEYG103	M.RESISTOR CH 1/10W 10K	1	
D13	RLS245	DIODE	1		R48	ERJ6GEYF472	M.RESISTOR CH 1/10W 4.7K	1	
E1	VJR1072	TEST POINT	1		R50	ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	1	
FBT	VLT0950	FLYBACK TRANSFORMER	1		R51	ERJ6GEYG104	M.RESISTOR CH 1/10W 100K	1	
HLC	VLQ0889	COIL	1		R52	ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	1	
IC1	TC74HC164AF	IC	1		R54	ERJ6GEYG223	M.RESISTOR CH 1/10W 22K	1	
					R55	ERJ6GEYG183	M.RESISTOR CH 1/10W 18K	1	
					R58	ERJ8GEYJ2R2	M.RESISTOR CH 1/8W 2.2	1	
					R59	ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	1	
					R60	ERJ6GEYG332	M.RESISTOR CH 1/10W 3.3K	1	
					R61,62	ERJ6GEYG223	M.RESISTOR CH 1/10W 22K	2	
					R63	ERJ6GEYG103	M.RESISTOR CH 1/10W 10K	1	
					R65	ERJ6GEYG104	M.RESISTOR CH 1/10W 100K	1	
					R66	ERJ6GEYG562	M.RESISTOR CH 1/10W 5.6K	1	
					R67	ERJ6GEYF472	M.RESISTOR CH 1/10W 4.7K	1	
					R68	ERJ6GEYG103	M.RESISTOR CH 1/10W 10K	1	
					R69	ERJ6GEYG104	M.RESISTOR CH 1/10W 1M	1	
					R70	ERJ6GEYG102	M.RESISTOR CH 1/10W 1K	1	
					R71	ERJ6GEYG101	M.RESISTOR CH 1/10W 100	1	
					R72-74	ERJ6GEYJ335	M.RESISTOR CH 1/10W 3.3M	3	
					R75	ERJ6GEYG104	M.RESISTOR CH 1/10W 100K	1	
					R76	ERJ6GEYG221	M.RESISTOR CH 1/10W 220	1	
					R77	ERJ6GEYG680	M.RESISTOR CH 1/10W 68	1	
					R78	ERJ6GEYG101	M.RESISTOR CH 1/10W 100	1	
					R80	ERJ6GEYG332	M.RESISTOR CH 1/10W 3.3K	1	
					R81	ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	1	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks	Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
R101	ERJ6GEY0R00	M. RESISTOR CH 1/10W 0	1		R13	ERJ6GEYF123	M. RESISTOR CH 1/10W 12K	1	
R104,05	ERJ6GEY103	M. RESISTOR CH 1/10W 10K	2		R14	ERJ6GEYF822	M. RESISTOR CH 1/10W 8.2K	1	
R110	WAZC-58-800	CHIP PROTECTOR	1		R15	ERJ6GEYF333	M. RESISTOR CH 1/10W 33K	1	
R111	ERJ6GEY101	M. RESISTOR CH 1/10W 100	1		R16	ERJ6GEY222	M. RESISTOR CH 1/10W 2.2K	1	
R113	RDRNU5331F2E	M. RESISTOR CH 1/4W 330	1		R17	ERJ6GEYF473	M. RESISTOR CH 1/10W 47K	1	
					R18	ERJ6GEYF224	M. RESISTOR CH 1/10W 220K	1	
RV1	VRV0303B102	V. RESISTOR 1K	1		R19	ERJ6GEY562	M. RESISTOR CH 1/10W 5.6K	1	
RV3	VRV0303B502	V. RESISTOR 5K	1		R20	ERJ6GEY103	M. RESISTOR CH 1/10W 10K	1	
RV5	VRV0303B103	V. RESISTOR 10K	1		R21	ERJ6GEY682	M. RESISTOR CH 1/10W 6.8K	1	
RV6	VRV0303B502	V. RESISTOR 5K	1		R22	ERJ6GEY302	M. RESISTOR CH 1/10W 3K	1	
RV7	VRV0303B101	V. RESISTOR 100	1		R23	ERJ6GEY103	M. RESISTOR CH 1/10W 10K	1	
					R24	ERJ6GEYJ150	M. RESISTOR CH 1/10W 15	1	
S2	VST0332	SWITCH	1		R25	ERJ6GEY332	M. RESISTOR CH 1/10W 3.3K	1	
S3	VST0333	SWITCH	1		R26	ERJ6GEYF472	M. RESISTOR CH 1/10W 4.7K	1	
		MISCELLANEOUS			R27	ERJ6GEYJ4R7	M. RESISTOR CH 1/10W 4.7K	1	
					R28	ERJ6GEYF333	M. RESISTOR CH 1/10W 33K	1	
					R29	ERJ6GEYF473	M. RESISTOR CH 1/10W 47K	1	
					R30	ERJ6GEY104	M. RESISTOR CH 1/10W 100K	1	
					R31	ERJ6GEYF561	M. RESISTOR CH 1/10W 560	1	
					R32	ERJ6GEY471	M. RESISTOR CH 1/10W 470	1	
					R33	ERJ6GEYJ100	M. RESISTOR CH 1/10W 10	1	
					R34	ERJ6GEY471	M. RESISTOR CH 1/10W 470	1	
					R35	ERJ6GEYF473	M. RESISTOR CH 1/10W 47K	1	
					R36	ERJ6GEYF333	M. RESISTOR CH 1/10W 33K	1	
					RV1, V2	EVML1GA00B53	V. RESISTOR 5K	2	
					RV3-V5	EVML1GA00B52	V. RESISTOR 500	3	
							MISCELLANEOUS		
							VMP6012	P.C. BOARD STAY	1
							XSB2+4FC	SCREW	2
■ E2	VEP20781D	SUB 1 P.C. BOARD	1 (RTL)		■ E3	VEP20782B	SUB 2 P.C. BOARD	1 (RTL)	
C1	VCS1VQ105	T. CAPACITOR CH 35V 1U	1		C1, C2	VCS1DQ106	T. CAPACITOR CH 20V 10U	2	
C2-C4	VCS1DQ106	T. CAPACITOR CH 20V 10U	3		C3	VCS1A226	T. CAPACITOR CH 10V 22U	1	
C5, C6	ECUX1E104KBN	C. CAPACITOR CH 25V 0.1U	2		C4	ECUM1H330JCN	C. CAPACITOR CH 50V 33P	1	
C7, C8	VCS1DQ106	T. CAPACITOR CH 20V 10U	2		C5	VCS1DQ106	T. CAPACITOR CH 20V 10U	1	
C9	VCS1VQ105	T. CAPACITOR CH 35V 1U	1		C6	ECUM1H330JCN	C. CAPACITOR CH 50V 33P	1	
C10	ECUX1H682KBN	C. CAPACITOR CH 50V 6800P	1		C7	VCS1DQ475	T. CAPACITOR CH 20V 4.7U	1	
C12	ECHU1C472J5	P. CAPACITOR 16V 4700P	1		C8	ECJ2VF1C105Z	C. CAPACITOR CH 16V 1U	1	
C13	ECUM1E223KBN	C. CAPACITOR CH 25V 0.023U	1		C9, 10	ECUM1H101JCN	C. CAPACITOR CH 50V 100P	2	
C14, 15	ECUX1E104KBN	C. CAPACITOR CH 25V 0.1U	2		C11	VCS1DQ475	T. CAPACITOR CH 20V 4.7U	1	
C16, 17	VCS1VQ105	T. CAPACITOR CH 35V 1U	2		C12	VCS1DQ106	T. CAPACITOR CH 20V 10U	1	
C18	WBC01101J1H	C. CAPACITOR CH 50V 100P	1		C13	ECJ2VB1H103K	C. CAPACITOR CH 50V 0.01U	1	
C19	ECUM1H472KBN	C. CAPACITOR CH 50V 4700P	1		C14, 15	ECJ2VF1C105Z	C. CAPACITOR CH 16V 1U	2	
C20	VCEV1C1B101	E. CAPACITOR 16V 100U	1		CN31	VJP1943	CONNECTOR (MALE)	1	
C21	ECJ2V1C1H221J	C. CAPACITOR CH 50V 220P	1		D1, D2	CL200HR-CTUL	DIODE	2	
C22	ECUM1H153KBN	C. CAPACITOR CH 50V 0.015U	1		D3	ISS302	DIODE	1	
C23	VCS1DQ335	T. CAPACITOR CH 20V 3.3U	1		D4	HZK4ALLTR	DIODE	1	
C24	ECUX1E104KBN	C. CAPACITOR CH 25V 0.1U	1		D5	ISS302	DIODE	1	
C25	VCS1DQ106	T. CAPACITOR CH 20V 10U	1		D6	HZK9CLTR	DIODE	1	
C26	ECJ2VB1H562K	C. CAPACITOR CH 50V 5600P	1		DL1	VLD0413	DELAY	1	
C27	VCEV1CBL471	E. CAPACITOR 16V 470U	1		IC1	TC4W66F	IC	1	C0JBAS000055
C28	ECUX1E104KBN	C. CAPACITOR CH 25V 0.1U	1		IC2	UPC358G2	IC	1	
					IC3	TC4W53F	IC	1	C0JBAR000225
CN21	VJP1614	CONNECTOR (MALE)	1		L1	VLQ0892	COIL	1	
CN22	VJP1843	CONNECTOR (MALE)	1		Q1, Q2	2SC4081	TRANSISTOR	2	
CP3	VJR1072	TEST POINT	1		Q3-Q7	2SC4178	TRANSISTOR	5	
D1	CL200HR-CTUL	DIODE	1		Q8-10	2SC4102	TRANSISTOR	3	
D2	DAH202U	DIODE	1		Q11	2SA1579	TRANSISTOR	1	
D3	ISS302	DIODE	1		R1	ERJ6GEY0R00	M. RESISTOR CH 1/10W 0	1	
IC1	HA11423MP	IC	1						
Q1, Q2	2SC4081	TRANSISTOR	2						
Q3	IM21	TRANSISTOR-RESISTOR	1						
Q4	2SK664	TRANSISTOR	1						
R1	ERJ6GEY222	M. RESISTOR CH 1/10W 2.2K	1						
R2	ERJ6GEY474	M. RESISTOR CH 1/10W 470K	1						
R3	ERJ6GEY102	M. RESISTOR CH 1/10W 1K	1						
R4	ERJ6GEYF123	M. RESISTOR CH 1/10W 12K	1						
R5	ERJ6GEY273	M. RESISTOR CH 1/10W 27K	1						
R6	ERJ6GEY103	M. RESISTOR CH 1/10W 10K	1						
R7	ERJ6GEYF822	M. RESISTOR CH 1/10W 8.2K	1						
R8	ERJ6GEY101	M. RESISTOR CH 1/10W 100	1						
R9	ERJ6GEY223	M. RESISTOR CH 1/10W 22K	1						
R10	ERJ6GEY121	M. RESISTOR CH 1/10W 120	1						
R11	ERJ6GEY103	M. RESISTOR CH 1/10W 10K	1						
R12	ERJ6GEY683	M. RESISTOR CH 1/10W 68K	1						

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks	Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
R2	ERJ6GEYG103	M.RESISTOR CH 1/10W 10K	1						
R3	ERJ6GEYG102	M.RESISTOR CH 1/10W 1K	1						
R4	ERJ6GEYG273	M.RESISTOR CH 1/10W 27K	1						
R5	ERJ6GEYG223	M.RESISTOR CH 1/10W 22K	1						
R6	ERJ6GEYG101	M.RESISTOR CH 1/10W 100	1						
R7	ERJ6GEYG332	M.RESISTOR CH 1/10W 3.3K	1						
R8-10	ERJ6GEYG511	M.RESISTOR CH 1/10W 510	3						
R11,12	ERJ6GEYG182	M.RESISTOR CH 1/10W 1.8K	2						
R13	ERJ6GEYF393	M.RESISTOR CH 1/10W 39K	1						
R14	ERJ6GEYG223	M.RESISTOR CH 1/10W 22K	1						
R15	ERJ6GEYG511	M.RESISTOR CH 1/10W 510	1						
R16,17	ERJ6GEYG101	M.RESISTOR CH 1/10W 100	2						
R18	ERJ6GEYG272	M.RESISTOR CH 1/10W 2.7K	1						
R19	ERJ6GEYG361	M.RESISTOR CH 1/10W 360	1						
R20	ERJ6GEYG511	M.RESISTOR CH 1/10W 510	1						
R21	ERJ6GEYG302	M.RESISTOR CH 1/10W 3K	1						
R22	ERJ6GEYG682	M.RESISTOR CH 1/10W 6.8K	1						
R23,24	ERJ6GEYG103	M.RESISTOR CH 1/10W 10K	2						
R25	ERJ6GEYG102	M.RESISTOR CH 1/10W 1K	1						
R26	ERJ6GEYF472	M.RESISTOR CH 1/10W 4.7K	1						
R27	ERJ6GEYF561	M.RESISTOR CH 1/10W 560	1						
R28	ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	1						
R29	ERJ6GEYF472	M.RESISTOR CH 1/10W 4.7K	1						
R30	ERJ6GEYG101	M.RESISTOR CH 1/10W 100	1						
R31	ERJ6GEYF822	M.RESISTOR CH 1/10W 8.2K	1						
R32	ERJ6GEYGB21	M.RESISTOR CH 1/10W 820	1						
R33	ERJ6GEYG162	M.RESISTOR CH 1/10W 1.6K	1						
R34	ERJ6GEYG103	M.RESISTOR CH 1/10W 10K	1						
R35	ERJ6GEYF393	M.RESISTOR CH 1/10W 39K	1						
R36	ERJ6GEYG183	M.RESISTOR CH 1/10W 18K	1						
R37	ERJ6GEYG103	M.RESISTOR CH 1/10W 10K	1						
R38	ERJ6GEYG222	M.RESISTOR CH 1/10W 2.2K	1						
R39	ERJ6GEYG563	M.RESISTOR CH 1/10W 56K	1						
R40	ERJ6GEYF393	M.RESISTOR CH 1/10W 39K	1						
R41	ERJ6GEYF333	M.RESISTOR CH 1/10W 33K	1						
R42	ERJ6GEYJ335	M.RESISTOR CH 1/10W 3.3M	1						
R43	ERJ6GEYG563	M.RESISTOR CH 1/10W 56K	1						
R44	RDRN05103F2E	M.RESISTOR CH 1/4W 0.01U	1						
R45	ERJ6GEYG102	M.RESISTOR CH 1/10W 1K	1						
R52	ERJ6GEYG152	M.RESISTOR CH 1/10W 1.5K	1						
RV1	VRV0305B202	V.RESISTOR 2K	1						
RV2	EVML1GA00B52	V.RESISTOR 500	1						
RV3	VRV0305B502	V.RESISTOR 5K	1						
RV4	EVML1GA00B15	V.RESISTOR 100K	1						
RV5	VRV0305B103	V.RESISTOR 10K	1						
E4	VEP20783	LED P.C. BOARD	1	(RTL)					
CN41	VJP1603T	CONNECTOR (MALE)	1	X1KAL0A00138					
D1	CL-150UR-CD	LED	1						
D2	CL-150D-CD	LED	1						
D3	CL-150UR-CD	LED	1						
D4,D5	DATQ11150PG	LED	2						
D6	CL-150D-CD	LED	1						
D9	DATQ11150PG	LED	1						

ELECTRICAL REPLACEMENT PARTS LIST

AJ-VF20WBP

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
■ E1	VEP20780A	MAIN P.C.BORAD	1	(RTL)
■ E2	VEP20781A	SUB 1 P.C.BORAD	1	(RTL)
■ E3	VEP20782A	SUB 2 P.C.BORAD	1	(RTL)
■ E4	VEP20783	LED P.C.BORAD	1	(RTL)
■ E1	VEP20780A	MAIN P.C.BORAD	1	(RTL)
C1	VCS1DQ106	T.CAPACITOR CH 20V 10U	1	
C2	VCS1AQ226	T.CAPACITOR CH 10V 22U	1	
C3	ECJ2VB1H103K	C.CAPACITOR CH 50V 0.01U	1	
C4	VCEV1EBL331	E.CAPACITOR 25V 330U	1	
C5	VCS1DQ106	T.CAPACITOR CH 20V 10U	1	
C6	ECJ2VF1C105Z	C.CAPACITOR CH 16V 1U	1	
C7	VCS1DQ106	T.CAPACITOR CH 20V 10U	1	
C8	ECUMH1391JCN	C.CAPACITOR CH 50V 390P	1	F1J1H391A025
C9	VCEA1CBG101	E.CAPACITOR 16V 100U	1	
C13	ECJ2VB1H103K	C.CAPACITOR CH 50V 0.01U	1	
C14	VCS1DQ335	T.CAPACITOR CH 20V 3.3U	1	
C15	VCS1CQ107	T.CAPACITOR CH 16V 100U	1	
C16	ECJ2VC1H221J	C.CAPACITOR CH 50V 220P	1	
C18	ECJ2VB1H103K	C.CAPACITOR CH 50V 0.01U	1	
C19	ECUMH1470JCN	C.CAPACITOR CH 50V 47P	1	
C20,21	ECUX1E104KBN	C.CAPACITOR CH 25V 0.1U	2	
C24	VCF01AP103	P.CAPACITOR 10V 0.01U	1	
C25	VCF01AP562	P.CAPACITOR 10V 5600P	1	
C26	ECUMH1472KBN	C.CAPACITOR CH 50V 4700P	1	
C27	VCS1DQ475	T.CAPACITOR CH 20V 4.7U	1	
C28	VCK0302	C.CAPACITOR 1000V 470P	1	
C29	VCEV1HBH4R7	E.CAPACITOR 50V 4.7U	1	
C30	VCEA1JBK270	E.CAPACITOR 63V 27U	1	
C31	VCS1DQ476	T.CAPACITOR CH 20V 47U	1	
C32	VCS1DQ106	T.CAPACITOR CH 20V 10U	1	
C40	PBCQ02202J2A	P.CAPACITOR 100V 2000P	1	
C41	ECUMH104ZFM	C.CAPACITOR CH 50V 0.1U	1	F1K1H1040015
C42	ECJ2VB1H562K	C.CAPACITOR CH 50V 5600P	1	
CN1	VJP3440A020	CONNECTOR (MALE)	1	K1KA20A00187
CN2	VJP1603T	CONNECTOR (MALE)	1	K1KA10A00138
CN3	VJP1942	CONNECTOR (MALE)	1	
CN4	VJP1603T	CONNECTOR (MALE)	1	K1KA10A00138
CN5	VJP4292	CONNECTOR (MALE)	1	
CN6	VJP1230T	CONNECTOR (MALE)	3P	K1KA03A00017
CP1-P4	WJR1072	TEST POINT	4	
D1	SC8204TE12R	DIODE	1	
D2,D3	DAP202U	DIODE	2	
D4	ISS302	DIODE	1	
D5	DAN202U	DIODE	1	
D6,D7	RLS245	DIODE	2	
D8	DAN202U	DIODE	1	
D9	ESJA57-04A	DIODE	1	
D10	RLS245	DIODE	1	
D13	RLS245	DIODE	1	
E1	WJR1072	TEST POINT	1	
FBT	VLT0949	FLYBACK TRANSFORMER	1	
HLC	VLQ0889	COIL	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
IC1	TC74HC164AF	IC	1	
IC2	TC74HC08AF	IC	1	COJBAA000084
IC3	COJBAB000180	IC	1	
IC4	M66311PP	IC	1	COHBZ0000021
IC5	TL1453CNS	IC	1	
IC6	TC4S01F	IC	1	
IC7,C8	TC4W53F	IC	2	COJBAR000225
IC9	UPC358G2	IC	1	
IC10,11	TC4S69F	IC	2	COJBAB000139
IC12	LM4041EIM312	DIODE	1	
L1	VLQ0891	COIL	1	
L2	VLQ0890	COIL	1	
L3	VLQ0891	COIL	1	
Q1	2SC4081	TRANSISTOR	1	
Q2	2SJ245S	TRANSISTOR	1	
Q3	2SA1579	TRANSISTOR	1	
Q4	2SB1132	TRANSISTOR	1	
Q5-Q8	2SK1254	TRANSISTOR	4	
Q9-11	2SC4081	TRANSISTOR	3	
Q15	2SC4081	TRANSISTOR	1	
Q20	2SC4081	TRANSISTOR	1	
Q21	2SA1576A	TRANSISTOR	1	
R1	ERJ6GEY223	M.RESISTOR CH 1/10W 22K	1	
R2	ERJ6GEYF333	M.RESISTOR CH 1/10W 33K	1	
R3	ERJ6GEY1G103	M.RESISTOR CH 1/10W 10K	1	
R4	ERJ6GEY1G104	M.RESISTOR CH 1/10W 100K	1	
R5	ERJ6GEYG332	M.RESISTOR CH 1/10W 3.3K	1	
R6	ERJ6GEYG331	M.RESISTOR CH 1/10W 330	1	
R7	ERJ6GEY1G102	M.RESISTOR CH 1/10W 1K	1	
R9	ERJ6GEYG332	M.RESISTOR CH 1/10W 3.3K	1	
R11	ERJ6GEYG331	M.RESISTOR CH 1/10W 330	1	
R17,18	ERJ6GEY1G102	M.RESISTOR CH 1/10W 1K	2	
R20,21	ERJ6GEYF472	M.RESISTOR CH 1/10W 4.7K	2	
R22-24	ERJ6GEY1G102	M.RESISTOR CH 1/10W 1K	3	
R25-27	ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	3	
R28	ERJ6GEYG471	M.RESISTOR CH 1/10W 470	1	
R29	ERJ6GEYG272	M.RESISTOR CH 1/10W 2.7K	1	
R30,31	ERJ6GEYG152	M.RESISTOR CH 1/10W 1.5K	2	
R32	ERJ6GEY1G102	M.RESISTOR CH 1/10W 1K	1	
R33-35	ERJ6GEY1G104	M.RESISTOR CH 1/10W 100K	3	
R36	ERJ6GEY1G103	M.RESISTOR CH 1/10W 10K	1	
R37	ERJ6GEY1G102	M.RESISTOR CH 1/10W 1K	1	
R38	ERJ6GEYG362	M.RESISTOR CH 1/10W 3.6K	1	
R39	ERJ6GEY1G102	M.RESISTOR CH 1/10W 1K	1	
R40	ERJ6GEY1G133	M.RESISTOR CH 1/10W 13K	1	D0GD133JA003
R41	ERJ6GEY1G152	M.RESISTOR CH 1/10W 1.5K	1	
R42	ERJ6GEYG332	M.RESISTOR CH 1/10W 3.3K	1	
R43,44	ERJ6GEY1G103	M.RESISTOR CH 1/10W 10K	2	
R45	ERJ6GEYG562	M.RESISTOR CH 1/10W 5.6K	1	
R46	ERJ6GEY1G103	M.RESISTOR CH 1/10W 10K	1	
R48	ERJ6GEYF472	M.RESISTOR CH 1/10W 4.7K	1	
R49	ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	1	
R51	ERJ6GEY1G104	M.RESISTOR CH 1/10W 100K	1	
R52	ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	1	
R54	ERJ6GEYG223	M.RESISTOR CH 1/10W 22K	1	
R55	ERJ6GEY1G183	M.RESISTOR CH 1/10W 18K	1	
R56	ERJ6GEYF333	M.RESISTOR CH 1/10W 33K	1	
R57	ERJ6GEY1G183	M.RESISTOR CH 1/10W 18K	1	
R58	ERJ8GEYJ1R2	M.RESISTOR CH 1/8W 1.2K	1	
R60	ERJ6GEYG332	M.RESISTOR CH 1/10W 3.3K	1	
R61,62	ERJ6GEYG223	M.RESISTOR CH 1/10W 22K	2	
R63	ERJ6GEY1G103	M.RESISTOR CH 1/10W 10K	1	
R65	ERJ6GEY1G104	M.RESISTOR CH 1/10W 100K	1	
R66	ERJ6GEYG562	M.RESISTOR CH 1/10W 5.6K	1	
R67	ERJ6GEYF472	M.RESISTOR CH 1/10W 4.7K	1	
R68	ERJ6GEY1G103	M.RESISTOR CH 1/10W 10K	1	
R69	ERJ6GEY1G105	M.RESISTOR CH 1/10W 1M	1	
R70	ERJ6GEY1G102	M.RESISTOR CH 1/10W 1K	1	
R71	ERJ6GEY1G101	M.RESISTOR CH 1/10W 100	1	
R72-74	ERJ6GEYJ335	M.RESISTOR CH 1/10W 3.3M	3	
R75	ERJ6GEY1G104	M.RESISTOR CH 1/10W 100K	1	
R76	ERJ6GEY221	M.RESISTOR CH 1/10W 220	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks	Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
R2	ERJ6GEYG103	M.RESISTOR CH 1/10W 10K	1						
R3	ERJ6GEYG102	M.RESISTOR CH 1/10W 1K	1						
R4	ERJ6GEYG273	M.RESISTOR CH 1/10W 27K	1						
R5	ERJ6GEYG223	M.RESISTOR CH 1/10W 22K	1						
R6	ERJ6GEYG101	M.RESISTOR CH 1/10W 100	1						
R7	ERJ6GEYG332	M.RESISTOR CH 1/10W 3.3K	1						
R8-10	ERJ6GEYG511	M.RESISTOR CH 1/10W 510	3						
R11,12	ERJ6GEYG182	M.RESISTOR CH 1/10W 1.8K	2						
R13	ERJ6GEYF393	M.RESISTOR CH 1/10W 39K	1						
R14	ERJ6GEYG223	M.RESISTOR CH 1/10W 22K	1						
R15	ERJ6GEYG511	M.RESISTOR CH 1/10W 510	1						
R16,17	ERJ6GEYG101	M.RESISTOR CH 1/10W 100	2						
R18	ERJ6GEYG272	M.RESISTOR CH 1/10W 2.7K	1						
R19	ERJ6GEYG361	M.RESISTOR CH 1/10W 360	1						
R20	ERJ6GEYG511	M.RESISTOR CH 1/10W 510	1						
R21	ERJ6GEYG302	M.RESISTOR CH 1/10W 3K	1						
R22	ERJ6GEYG682	M.RESISTOR CH 1/10W 6.8K	1						
R23,24	ERJ6GEYG103	M.RESISTOR CH 1/10W 10K	2						
R25	ERJ6GEYG102	M.RESISTOR CH 1/10W 1K	1						
R26	ERJ6GEYF472	M.RESISTOR CH 1/10W 4.7K	1						
R27	ERJ6GEYF561	M.RESISTOR CH 1/10W 560	1						
R28	ERJ6GEYOR00	M.RESISTOR CH 1/10W 0	1						
R29	ERJ6GEYF472	M.RESISTOR CH 1/10W 4.7K	1						
R30	ERJ6GEYG101	M.RESISTOR CH 1/10W 100	1						
R31	ERJ6GEYF822	M.RESISTOR CH 1/10W 8.2K	1						
R32	ERJ6GEYG821	M.RESISTOR CH 1/10W 820	1						
R33	ERJ6GEYG162	M.RESISTOR CH 1/10W 1.6K	1						
R34	ERJ6GEYG103	M.RESISTOR CH 1/10W 10K	1						
R35	ERJ6GEYF393	M.RESISTOR CH 1/10W 39K	1						
R36	ERJ6GEYG183	M.RESISTOR CH 1/10W 18K	1						
R37	ERJ6GEYG103	M.RESISTOR CH 1/10W 10K	1						
R38	ERJ6GEYG222	M.RESISTOR CH 1/10W 2.2K	1						
R39	ERJ6GEYG563	M.RESISTOR CH 1/10W 56K	1						
R40	ERJ6GEYF393	M.RESISTOR CH 1/10W 39K	1						
R41	ERJ6GEYF333	M.RESISTOR CH 1/10W 33K	1						
R42	ERJ6GEYJ335	M.RESISTOR CH 1/10W 3.3M	1						
R43	ERJ6GEYG563	M.RESISTOR CH 1/10W 56K	1						
R44	RDRN05103F22	M.RESISTOR CH 1/4W 0.01U	1						
R45	ERJ6GEYG102	M.RESISTOR CH 1/10W 1K	1						
R50	ERJ6GEYF473	M.RESISTOR CH 1/10W 47K	1						
R51	ERJ6GEYF333	M.RESISTOR CH 1/10W 33K	1						
R52	ERJ6GEYG0152	M.RESISTOR CH 1/10W 1.5K	1						
RV1	VRV0305B202	V.RESISTOR	2K	1					
RV2	EVML1GA00B52	V.RESISTOR	500	1					
RV3	VRV0305B502	V.RESISTOR	5K	1					
RV4	EVML1GA00B15	V.RESISTOR	100K	1					
RV5	VRV0305B103	V.RESISTOR	10K	1					
RV6	EVML1GA00B55	V.RESISTOR	500K	1					
■ E4	VEP20783	LED F.C.BOARD	1	(RTL)					
CN41	VJP1603T	CONNECTOR (MALE)	1	K1KA10A00138					
D1	CL-150UR-CD	LED	1						
D2	CL-150D-CD	LED	1						
D3	CL-150UR-CD	LED	1						
D4, D5	DATQ11150PG	LED	2						
D6	CL-150D-CD	LED	1						
D9	DATQ11150PG	LED	1						

ELECTRICAL REPLACEMENT PARTS LIST

AJ-VF20WBE

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks	Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
■ E1	VEP20780C	MAIN P.C.BORD	1	(RTL)	IC1	TC74HC164AF	IC	1	
■ E2	VEP20781C	SUB 1 P.C.BORD	1	(RTL)	IC2	TC74HC08AF	IC	1	COJBABA00084
■ E3	VEP20782A	SUB 2 P.C.BORD	1	(RTL)	IC3	COJBABA000180	IC	1	
■ E4	VEP20783	LED P.C.BORD	1	(RTL)	IC4	M66311PP	IC	1	COHBZ0000021
					IC5	TL1453CNS	IC	1	
					IC6	TC4S01F	IC	1	
					IC7, C8	TC4W53F	IC	2	COJBABA000225
					IC9	UPC358G2	IC	1	
					IC10, 11	TC4S69F	IC	2	COJBABA000139
					IC12	LM4041EIM312	DIODE	1	
					L1	VLQ0891	COIL	1	
					L2	VLQ0890	COIL	1	
					L3	VLQ0891	COIL	1	
					Q1	2SC4081	TRANSISTOR	1	
					Q2	2SJ245S	TRANSISTOR	1	
					Q3	2SA1579	TRANSISTOR	1	
					Q4	2SB1132	TRANSISTOR	1	
					Q5-Q8	2SK1254	TRANSISTOR	4	
					Q9-11	2SC4081	TRANSISTOR	3	
					Q15	2SC4081	TRANSISTOR	1	
					Q20	2SC4081	TRANSISTOR	1	
					Q21	2SA1576A	TRANSISTOR	1	
					R1	ERJ6GEY223	M.RESISTOR CH 1/10W 22K	1	
					R2	ERJ6GEYF333	M.RESISTOR CH 1/10W 33K	1	
					R3	ERJ6GEY103	M.RESISTOR CH 1/10W 10K	1	
					R4	ERJ6GEY104	M.RESISTOR CH 1/10W 100K	1	
					R5	ERJ6GEY332	M.RESISTOR CH 1/10W 3.3K	1	
					R6	ERJ6GEY331	M.RESISTOR CH 1/10W 330	1	
					R7	ERJ6GEY102	M.RESISTOR CH 1/10W 1K	1	
					R9	ERJ6GEYG332	M.RESISTOR CH 1/10W 3.3K	1	
					R11	ERJ6GEY331	M.RESISTOR CH 1/10W 330	1	
					R17, 18	ERJ6GEY102	M.RESISTOR CH 1/10W 1K	2	
					R20, 21	ERJ6GEYF472	M.RESISTOR CH 1/10W 4.7K	2	
					R22-24	ERJ6GEY102	M.RESISTOR CH 1/10W 1K	3	
					R25-27	ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	3	
					R28	ERJ6GEY471	M.RESISTOR CH 1/10W 470	1	
					R29	ERJ6GEYG272	M.RESISTOR CH 1/10W 2.7K	1	
					R30, 31	ERJ6GEYG152	M.RESISTOR CH 1/10W 1.5K	2	
					R32	ERJ6GEY102	M.RESISTOR CH 1/10W 1K	1	
					R33-35	ERJ6GEY104	M.RESISTOR CH 1/10W 100K	3	
					R36	ERJ6GEY103	M.RESISTOR CH 1/10W 10K	1	
					R37	ERJ6GEY102	M.RESISTOR CH 1/10W 1K	1	
					R38	ERJ6GEY362	M.RESISTOR CH 1/10W 3.6K	1	
					R39	ERJ6GEY102	M.RESISTOR CH 1/10W 1K	1	
					R40	ERJ6GEY133	M.RESISTOR CH 1/10W 13K	1	D0GD133JA003
					R41	ERJ6GEY152	M.RESISTOR CH 1/10W 1.5K	1	
					R42	ERJ6GEYG332	M.RESISTOR CH 1/10W 3.3K	1	
					R43, 44	ERJ6GEY103	M.RESISTOR CH 1/10W 10K	2	
					R45	ERJ6GEYG562	M.RESISTOR CH 1/10W 5.6K	1	
					R46	ERJ6GEY103	M.RESISTOR CH 1/10W 10K	1	
					R48	ERJ6GEYF472	M.RESISTOR CH 1/10W 4.7K	1	
					R49	ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	1	
					R51	ERJ6GEY104	M.RESISTOR CH 1/10W 100K	1	
					R52	ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	1	
					R54	ERJ6GEYG223	M.RESISTOR CH 1/10W 22K	1	
					R55	ERJ6GEY183	M.RESISTOR CH 1/10W 18K	1	
					R56	ERJ6GEYF333	M.RESISTOR CH 1/10W 33K	1	
					R57	ERJ6GEY183	M.RESISTOR CH 1/10W 18K	1	
					R58	ERJ8GEYJ1R2	M.RESISTOR CH 1/8W 1.2K	1	
					R60	ERJ6GEYG332	M.RESISTOR CH 1/10W 3.3K	1	
					R61, 62	ERJ6GEYG223	M.RESISTOR CH 1/10W 22K	2	
					R63	ERJ6GEY103	M.RESISTOR CH 1/10W 10K	1	
					R65	ERJ6GEY104	M.RESISTOR CH 1/10W 100K	1	
					R66	ERJ6GEYG562	M.RESISTOR CH 1/10W 5.6K	1	
					R67	ERJ6GEYF472	M.RESISTOR CH 1/10W 4.7K	1	
					R68	ERJ6GEY103	M.RESISTOR CH 1/10W 10K	1	
					R69	ERJ6GEY105	M.RESISTOR CH 1/10W 1M	1	
					R70	ERJ6GEY102	M.RESISTOR CH 1/10W 1K	1	
					R71	ERJ6GEY101	M.RESISTOR CH 1/10W 100	1	
					R72-74	ERJ6GEYJ335	M.RESISTOR CH 1/10W 3.3M	3	
					R75	ERJ6GEY104	M.RESISTOR CH 1/10W 100K	1	
					R76	ERJ6GEY221	M.RESISTOR CH 1/10W 220	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks	Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
R2	ERJ6GEYG103	M.RESISTOR CH 1/10W 10K	1						
R3	ERJ6GEYG102	M.RESISTOR CH 1/10W 1K	1						
R4	ERJ6GEYG273	M.RESISTOR CH 1/10W 27K	1						
R5	ERJ6GEYG223	M.RESISTOR CH 1/10W 22K	1						
R6	ERJ6GEYG101	M.RESISTOR CH 1/10W 100	1						
R7	ERJ6GEYG332	M.RESISTOR CH 1/10W 3.3K	1						
R8-10	ERJ6GEYG511	M.RESISTOR CH 1/10W 510	3						
R11,12	ERJ6GEYG182	M.RESISTOR CH 1/10W 1.8K	2						
R13	ERJ6GEYF393	M.RESISTOR CH 1/10W 39K	1						
R14	ERJ6GEYG223	M.RESISTOR CH 1/10W 22K	1						
R15	ERJ6GEYG511	M.RESISTOR CH 1/10W 510	1						
R16,17	ERJ6GEYG101	M.RESISTOR CH 1/10W 100	2						
R18	ERJ6GEYG272	M.RESISTOR CH 1/10W 2.7K	1						
R19	ERJ6GEYG361	M.RESISTOR CH 1/10W 360	1						
R20	ERJ6GEYG511	M.RESISTOR CH 1/10W 510	1						
R21	ERJ6GEYG302	M.RESISTOR CH 1/10W 3K	1						
R22	ERJ6GEYG682	M.RESISTOR CH 1/10W 6.8K	1						
R23,24	ERJ6GEYG103	M.RESISTOR CH 1/10W 10K	2						
R25	ERJ6GEYG102	M.RESISTOR CH 1/10W 1K	1						
R26	ERJ6GEYF472	M.RESISTOR CH 1/10W 4.7K	1						
R27	ERJ6GEYF561	M.RESISTOR CH 1/10W 560	1						
R28	ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	1						
R29	ERJ6GEYF472	M.RESISTOR CH 1/10W 4.7K	1						
R30	ERJ6GEYG101	M.RESISTOR CH 1/10W 100	1						
R31	ERJ6GEYF822	M.RESISTOR CH 1/10W 8.2K	1						
R32	ERJ6GEYG821	M.RESISTOR CH 1/10W 820	1						
R33	ERJ6GEYG162	M.RESISTOR CH 1/10W 1.6K	1						
R34	ERJ6GEYG103	M.RESISTOR CH 1/10W 10K	1						
R35	ERJ6GEYF393	M.RESISTOR CH 1/10W 39K	1						
R36	ERJ6GEYG183	M.RESISTOR CH 1/10W 18K	1						
R37	ERJ6GEYG103	M.RESISTOR CH 1/10W 10K	1						
R38	ERJ6GEYG222	M.RESISTOR CH 1/10W 2.2K	1						
R39	ERJ6GEYG563	M.RESISTOR CH 1/10W 56K	1						
R40	ERJ6GEYF393	M.RESISTOR CH 1/10W 39K	1						
R41	ERJ6GEYF333	M.RESISTOR CH 1/10W 33K	1						
R42	ERJ6GEYJ335	M.RESISTOR CH 1/10W 3.3M	1						
R43	ERJ6GEYG563	M.RESISTOR CH 1/10W 56K	1						
R44	RDRN05103P28	M.RESISTOR CH 1/4W 0.01Ω	1						
R45	ERJ6GEYG102	M.RESISTOR CH 1/10W 1K	1						
R50	ERJ6GEYF473	M.RESISTOR CH 1/10W 47K	1						
R51	ERJ6GEYF333	M.RESISTOR CH 1/10W 33K	1						
R52	ERJ6GEYG152	M.RESISTOR CH 1/10W 1.5K	1						
RV1	VRV0305B202	V.RESISTOR	2K	1					
RV2	EVML1GA00B52	V.RESISTOR	500	1					
RV3	VRV0305B502	V.RESISTOR	5K	1					
RV4	EVML1GA00B15	V.RESISTOR	100K	1					
RV5	VRV0305B103	V.RESISTOR	10K	1					
RV6	EVML1GA00B55	V.RESISTOR	500K	1					
■ E4	VEP20783	LED P.C.BOARD	1	(RTL)					
CN41	VJP1603T	CONNECTOR (MALE)	1	K1KA10A00138					
D1	CL-150UR-CD	LED	1						
D2	CL-150D-CD	LED	1						
D3	CL-150UR-CD	LED	1						
D4,D5	DATQ11150PG	LED	2						
D6	CL-150D-CD	LED	1						
D9	DATQ11150PG	LED	1						

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